FUNAI

SERVICE MANUAL

This Service Manual is for the
LH7-M32BB (A93F0FP) / LH7-M32BB (A93F2EP) model.
For the LH7-M32BB (A93F0FP) / LH7-M32BB (A93F2EP) model, the letter (A93F0FP) / (A93F2EP) is printed on the Serial Number Label on the back of the unit. Refer to the Serial Number Label below.

Serial No. Label

P18910001 - A93F0FP ※
MANUFACTURED : MAY 2009 P

"A93F0FP"

Serial No. Label

P20910001 - A93F2EP ※
MANUFACTURED : MAY 2009 P

"A93F2EP"

32″ COLOR LCD TELEVISION

LH7-M32BB



32″ COLOR LCD TELEVISION

LH7-M32BB

TABLE OF CONTENTS

Specifications 1-1
Important Safety Precautions 2-1
Standard Notes for Servicing 3-1
Cabinet Disassembly Instructions 4-1
Electrical Adjustment Instructions 5-1
How to Initialize the LCD Television 6-1
Troubleshooting 7-1
Block Diagrams 8-1
Schematic Diagrams / CBA and Test Points 9-1
Waveforms 10-1
Wiring Diagram 11-1
Exploded View 12-1
Mechanical Parts List 13-1
Electrical Parts List 14-1

The LCD panel is manufactured to provide many years of useful life. Occasionally a few non active pixels may appear as a tiny spec of color. This is not to be considered a defect in the LCD screen.

SPECIFICATIONS

< TUNER >

VHS/UHF Input ----------- 75Ω unbal., IEC Connector
Center IF ------------------- SECAM-L 38.9MHz, SECAM-L' 33.9MHz

Description	Condition	Unit	Nominal	Limit
1. Video S/N	80	dB	---	40
2. Audio S/N	---	dB	---	40/40

< LCD PANEL >

Description	Condition	Unit	Nominal	Limit
1. Number of Pixels	Horizontal Vertical	pixels pixels	1366 768	--- ---
2. Viewing Angle	Horizontal Vertical	° °	-88 to 88 -88 to 88	--- ---

<DVB-T>

Description	Condition	Unit	Nominal	Limit
1. RECEIVED FREQ.RANGE (-60dBm, 45ch.) *1, *2	+ -	kHz kHz	1000 900	500 167
2. INPUT DYNAMIC RANGE (mix./max)	①:*1 VHF HIGH 8ch. UHF 45ch.	dBuV dBuV	25/101 25/101	28/98 29/98
	②:*2 VHF HIGH 8ch. UHF 45ch.	dBuV dBuV	18/101 18/101	21/98 21/98
3. C/N PERFORMANCE (-50dBm)	①:*1 VHF HIGH 8ch. UHF 45ch.	dB dB	15 15	≦18 ≦18
	②:*2 VHF HIGH 8ch. UHF 45ch.	dB dB	11 11	≦14 ≦14
4. MULTIPATH (-50dBm) a. Performance with short delay echoes b. Performance with long delay echoes	UHF 45ch. ①:*3 ②:*4 ①:*3 ②:*4	 dB dB dB dB	 18.7 14.0 19.1 13.0	 ≦23 ≦20 ≦23 ≦18

*1: modulation parameters = [8k 64QAM CR=2/3 GI=1/32]
*2: modulation parameters = [8k 16QAM CR=3/4 GI=1/8]
*3: modulation parameters = [2k 64QAM CR=2/3 GI=1/32]
*4: modulation parameters = [2k 16QAM CR=3/4 GI=1/32]

< VIDEO >

Description	Condition	Unit	Nominal	Limit
1. Over Scan	Horizontal Vertical	% %	5 5	--- ---
2. Color Temperature	AT 70% WHITE FIELD x y	°K	9200 0.286 0.295	--- ±0.008 ±0.008
3. Resolution	Horizontal Vertical	line line	400 350	--- ---
4. Brightness	AT 100% WHITE FIELD	cd/m^2	300	---

< AUDIO >

All items are measured across 16 Ω load at speaker output terminal.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power	10% THD: Lch/Rch	W	5.0/5.0	4.0/4.0
2. Audio Distortion	500mW: Lch/Rch	%	1.5/1.5	3.0/3.0
3. Audio Freq. Response	−6dB: Lch −6dB: Rch	Hz Hz	70 to 10 k 70 to 10 k	--- ---
4. Audio S/N	Lch/Rch	dB	---	≧45/45

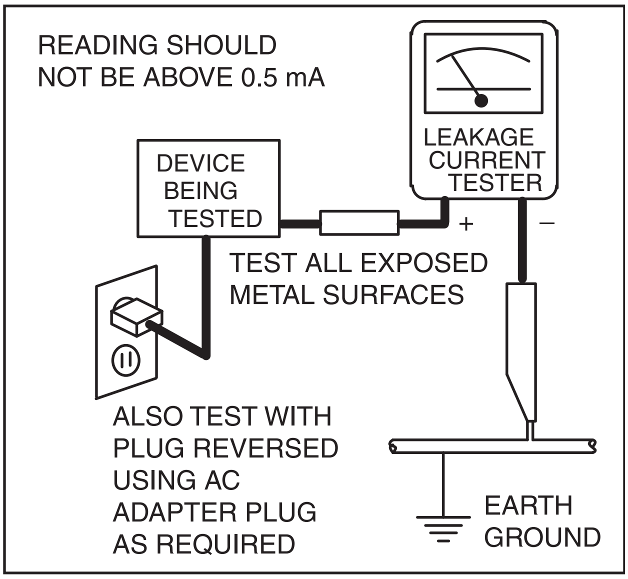
Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for LCD TV Circuit

1. **Before returning an instrument to the customer,** always make a safety check of the entire instrument, including, but not limited to, the following items:
   - **a.** Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**
   - **b.** Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the LCD module and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.
   - **c. Antenna Cold Check -** With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.
   - **d. Leakage Current Hot Check -** With the instrument completely reassembled, plug the AC line cord directly into a 230 V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the LCD module.
3. **Design Alteration Warning -** Do not alter or add to the mechanical or electrical design of this LCD TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Hot Chassis Warning -**
   a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and maybe safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0 V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.
   b. Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
   c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.
5. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and, e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.
6. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
7. **Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The product's safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm they comply with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the ⚠ symbol are critical for safety.
Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:

1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:

1) Insulation Tape
2) PVC tubing
3) Spacers
4) Insulators for transistors.

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)

G. Check that replaced wires do not contact sharp edged or pointed parts.

H. When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC supply outlet.

L. When installing parts or assembling the cabinet parts, be sure to use the proper screws and tighten certainly.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1 : Ratings for selected area

AC Line Voltage	Clearance Distance (d), (d')
220 to 240 V	≥ 3mm(d) ≥ 8mm(d')

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

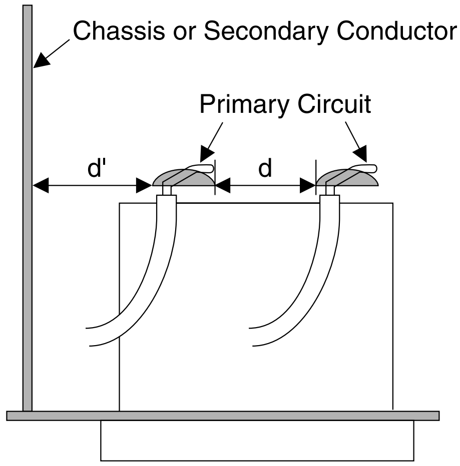


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

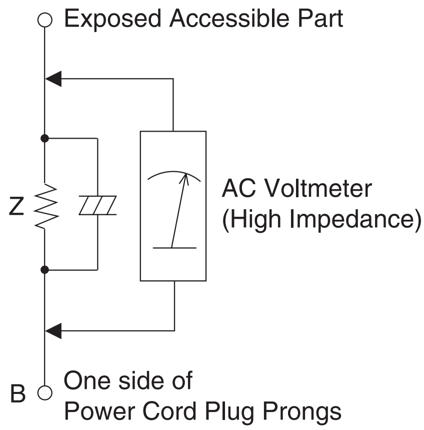


Fig. 2

Table 2: Leakage current ratings for selected areas

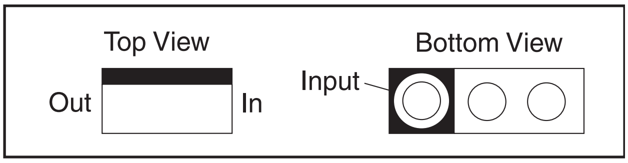
AC Line Voltage	Load Z	Leakage Current (i)	One side of power cord plug prongs (B) to:
220 to 240 V	2kΩ RES. Connected in parallel	i≤0.7mA AC Peak i≤2mA DC	RF or Antenna terminals
	50kΩ RES. Connected in parallel	i≤0.7mA AC Peak i≤2mA DC	A/V Input, Output

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

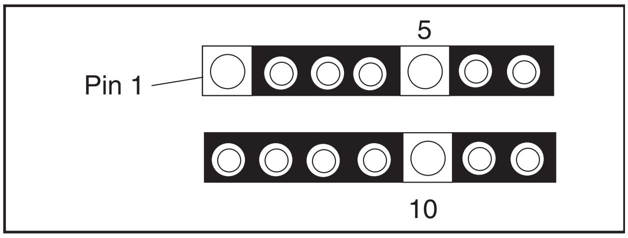
STANDARD NOTES FOR SERVICING

Circuit Board Indications

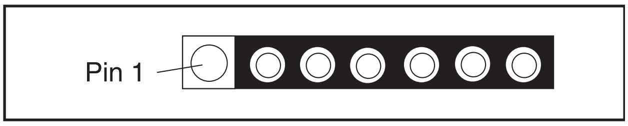
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

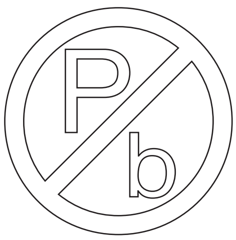


3. The 1st pin of every male connector is indicated as shown.



Pb (Lead) Free Solder

Pb free mark will be found on PCBs which use Pb free solder. (Refer to figure.) For PCBs with Pb free mark, be sure to use Pb free solder. For PCBs without Pb free mark, use standard solder.



Pb free mark

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

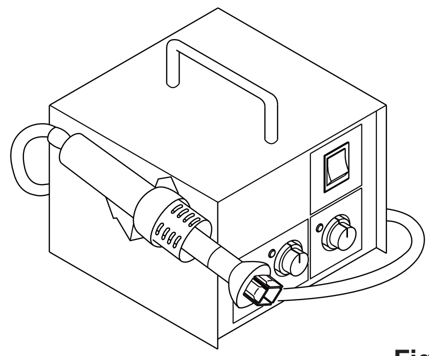


Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)
3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

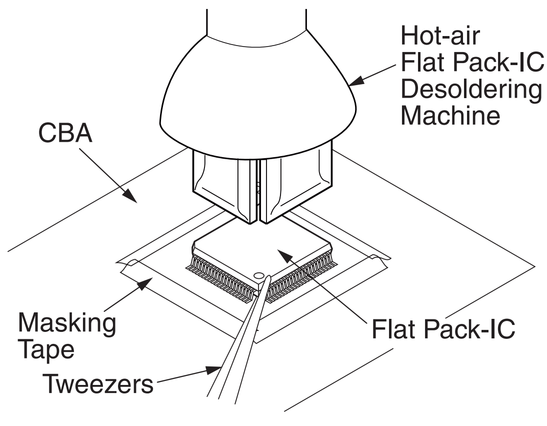


Fig. S-1-2

With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

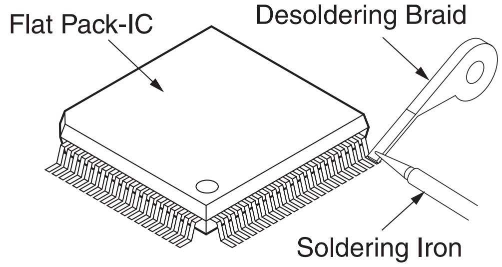


Fig. S-1-3

2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

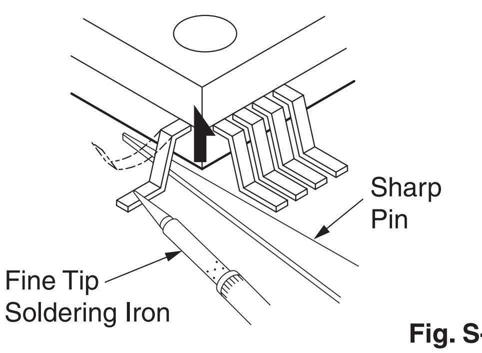


Fig. S-1-4

3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

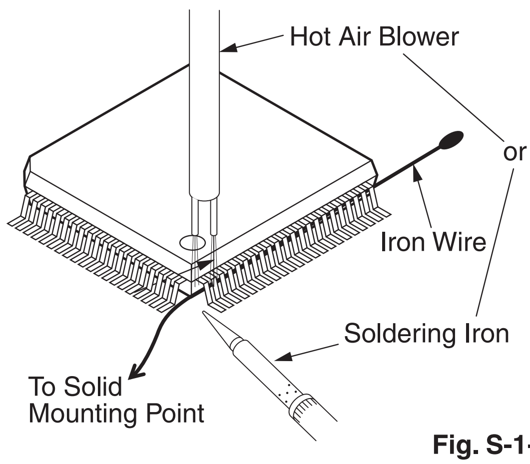


Fig. S-1-5

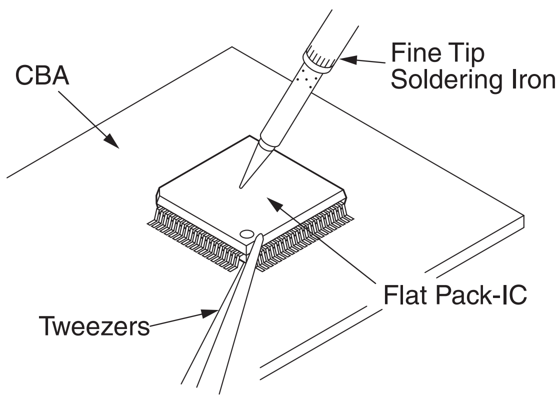


Fig. S-1-6

2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the pin 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

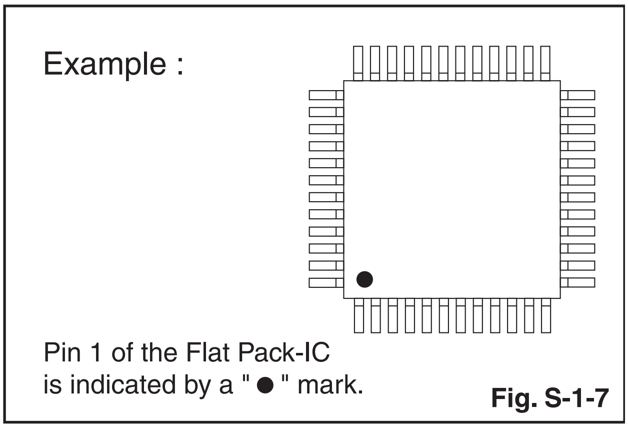


Fig. S-1-7

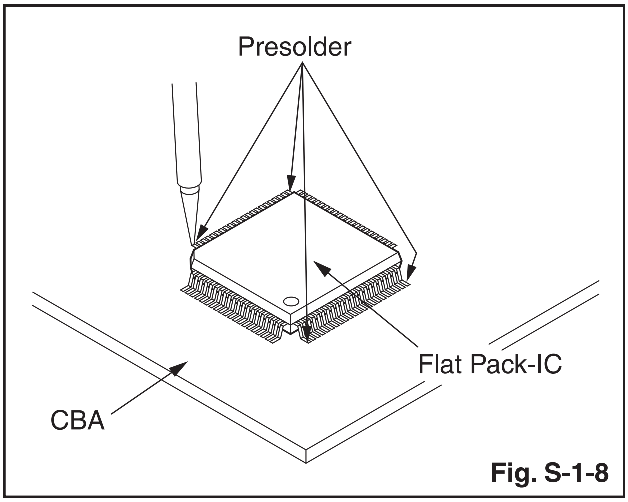


Fig. S-1-8

Instructions for Handling Semi-conductors

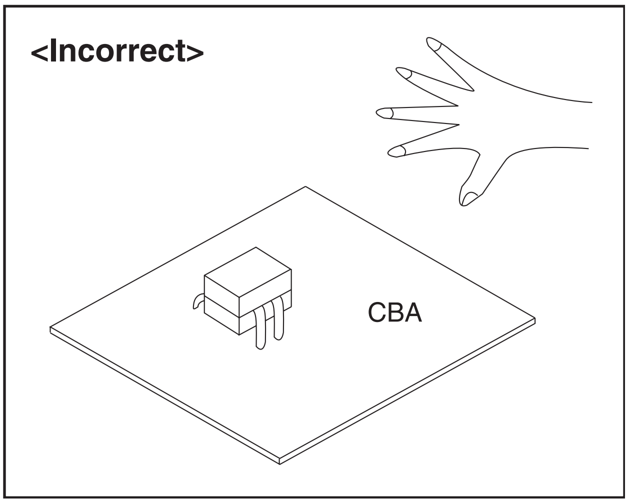
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

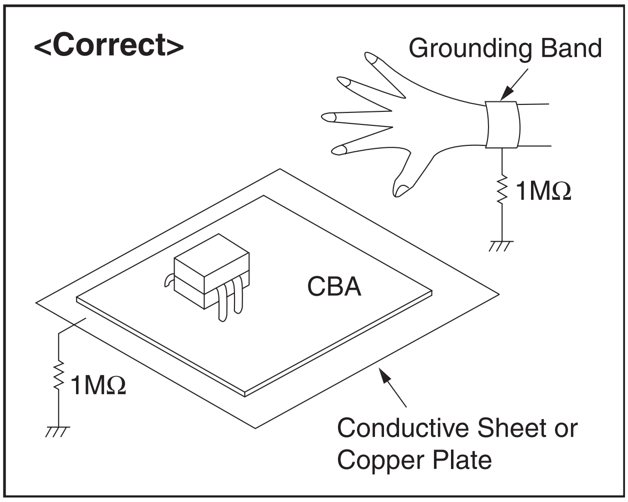
1. Ground for Human Body

Be sure to wear a grounding band (1 MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.

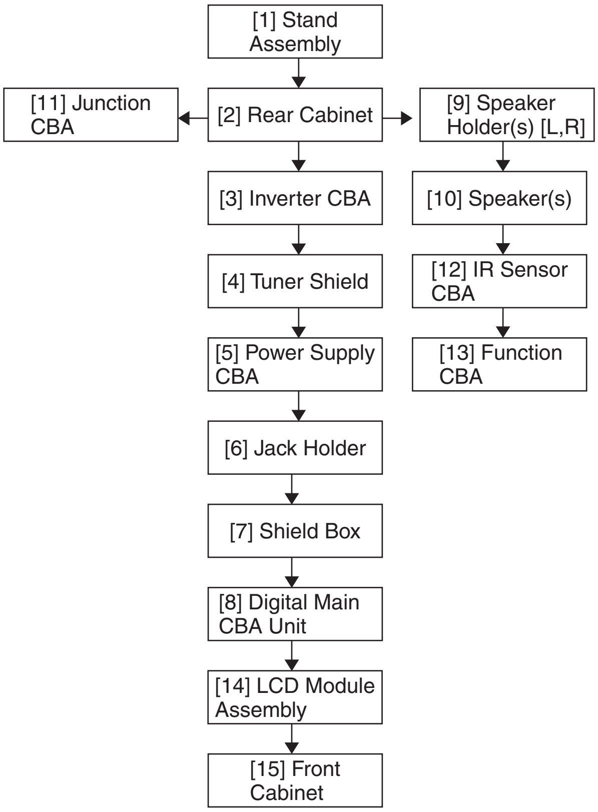




CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.



2. Disassembly Method

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[1]	Stand Assembly	D1	4(S-1)	---
[2]	Rear Cabinet	D1	13(S-2), 2(S-3), 3(S-4), (S-5)	---
[3]	Inverter CBA	D2 D4	6(S-6), *CN1001, *CN1003, *CN1050, *CN1100, *CN1150, *CN1200, *CN1900	---
[4]	Tuner Shield	D2	2(S-7)	---
[5]	Power Supply CBA	D2 D4	6(S-8), *CN101, *CN401, *CN402, *CN403, *CN404, *CN801, *CN802, Jack Holder (HP)	---
[6]	Jack Holder	D2	2(S-9)	---
[7]	Shield Box	D2	3(S-10), 2(S-11), 5(S-12), 2(H-1), *CN3901	---
[8]	Digital Main CBA Unit	D2 D4	2(S-13), Connector IC Card OSU	---
[9]	Speaker Holder(s) [L,R]	D3	8(S-14), *Hook	---
[10]	Speaker(s)	D3	---------------	---
[11]	Junction CBA	D3 D4	Desolder	---
[12]	IR Sensor CBA	D3 D4	2(S-15), *CL103A	---
[13]	Function CBA	D3 D4	3(S-16)	---
[14]	LCD Module Assembly	D3	(S-17)	---
[15]	Front Cabinet	D3	---------------	---
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

Note:

(1) Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.

(2) Parts to be removed or installed.

(3) Fig. No. showing procedure of part location

(4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
N = Nut, L = Locking Tab, S = Screw,
H = Hex Screw, CN = Connector
* = Unhook, Unlock, Release, Unplug, or Desolder
e.g. 2(S-2) = two Screws (S-2),
2(L-2) = two Locking Tabs (L-2)

(5) Refer to the following "Reference Notes in the Table."

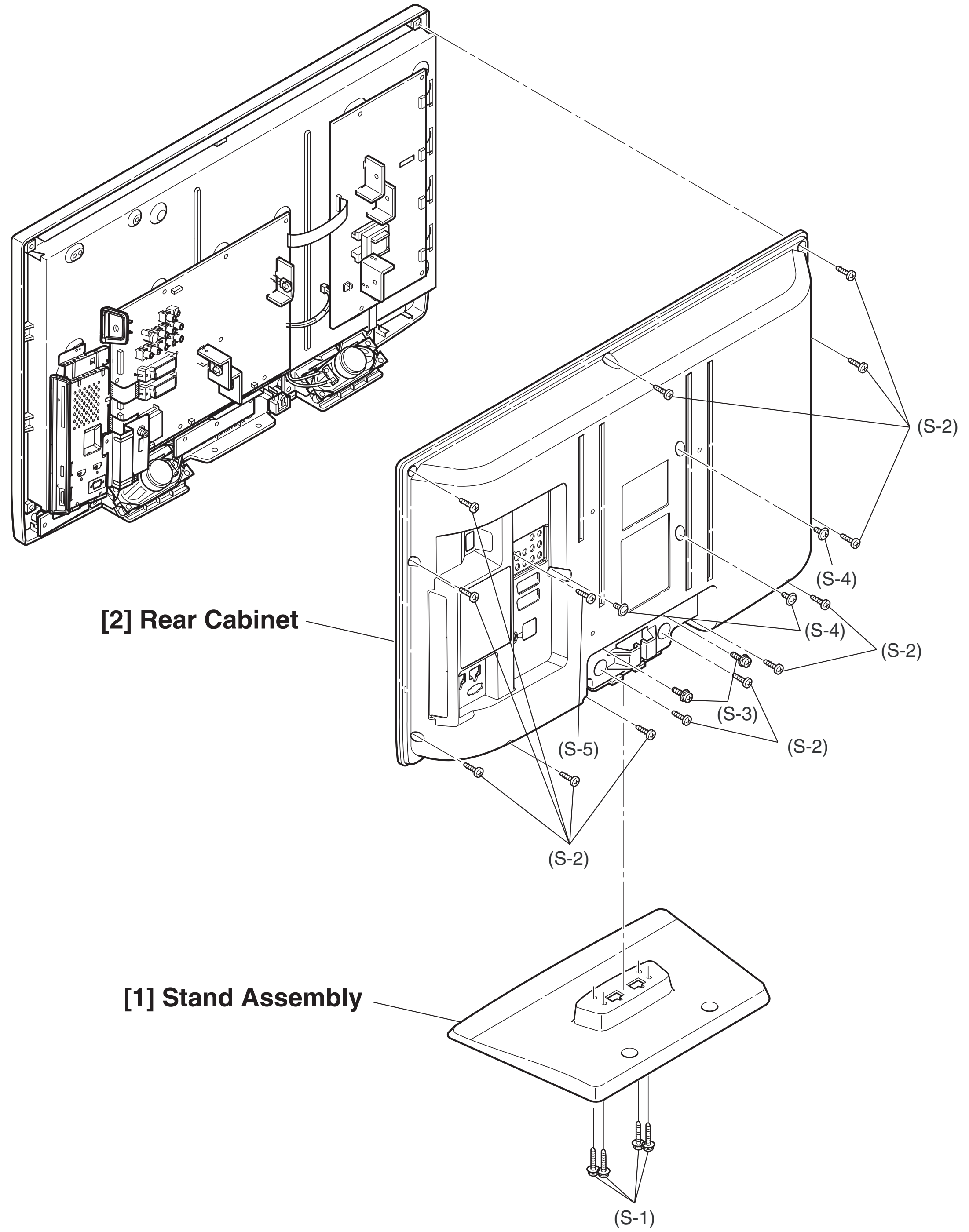


Fig. D1

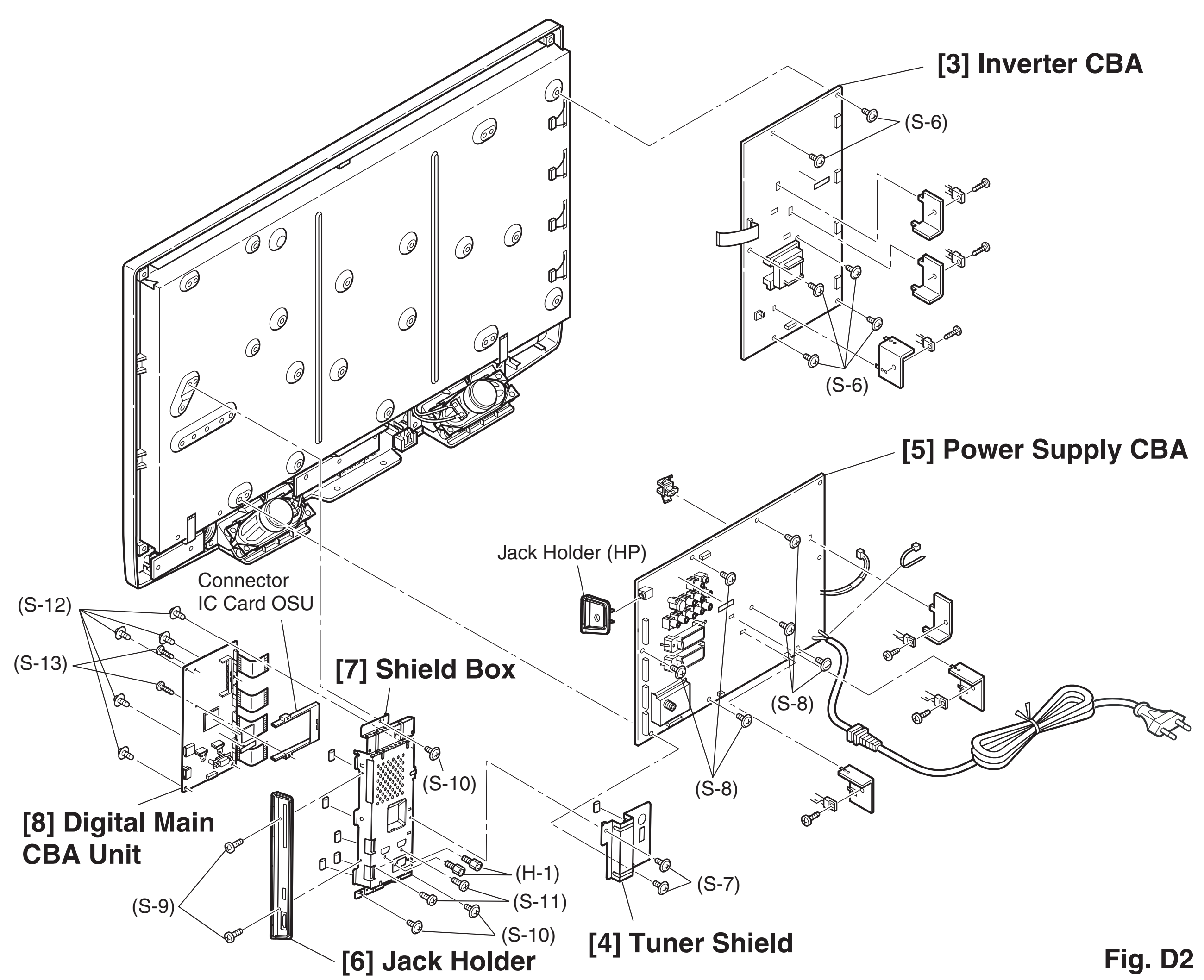

[3] Inverter CBA
(S-6)
(S-6)
[5] Power Supply CBA
Jack Holder (HP)
Connector
IC Card OSU
(S-12)
(S-13)
[7] Shield Box
(S-8)
(S-10)
(S-8)
[8] Digital Main
CBA Unit
(H-1)
(S-11)
(S-7)
(S-9)
(S-10)
[4] Tuner Shield
[6] Jack Holder

Fig. D2

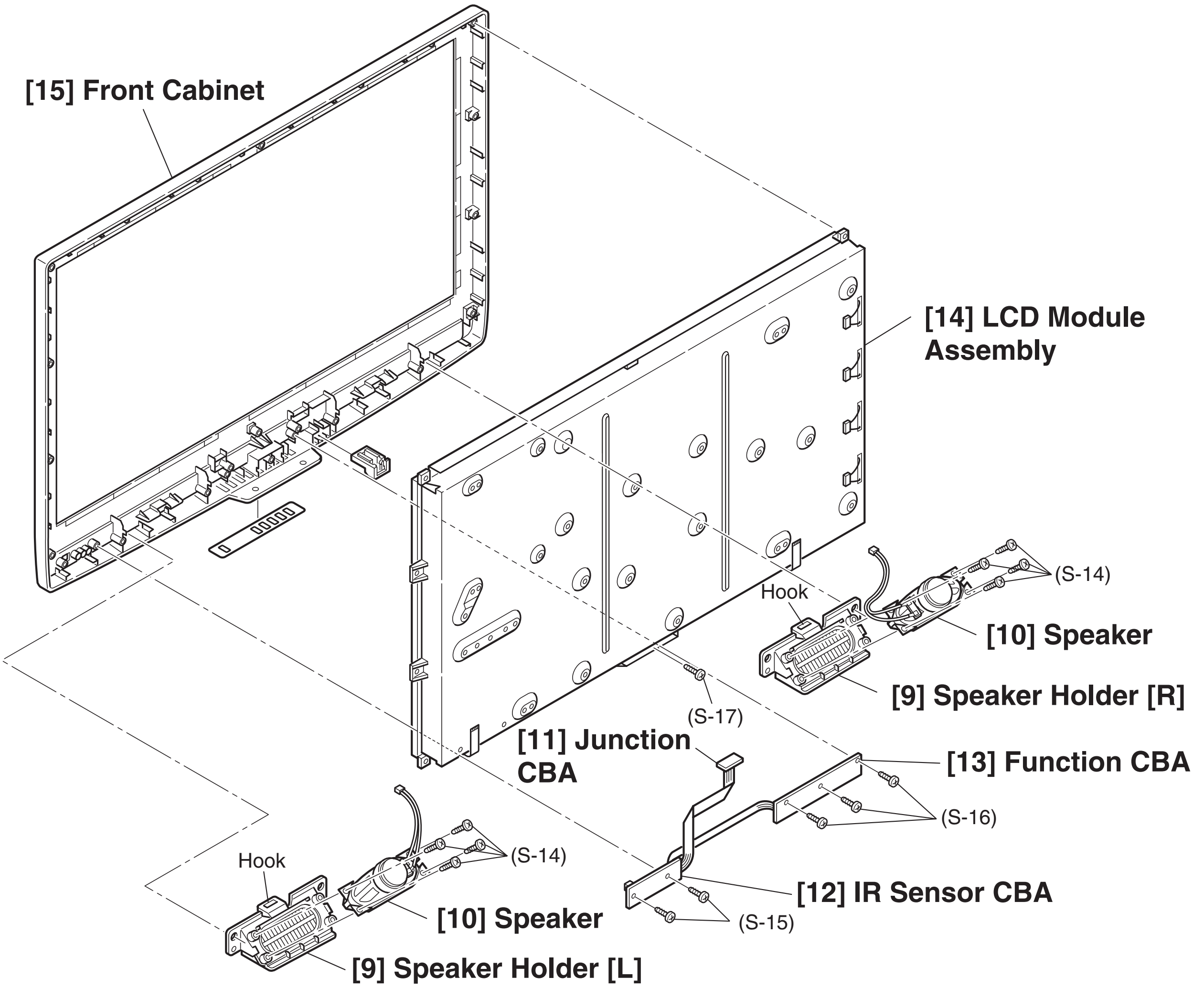

[15] Front Cabinet
[14] LCD Module Assembly
(S-14)
Hook
[10] Speaker
[9] Speaker Holder [R]
(S-17)
[11] Junction CBA
[13] Function CBA
(S-16)
Hook
(S-14)
[12] IR Sensor CBA
[10] Speaker
(S-15)
[9] Speaker Holder [L]

Fig. D3

TV Cable Wiring Diagram

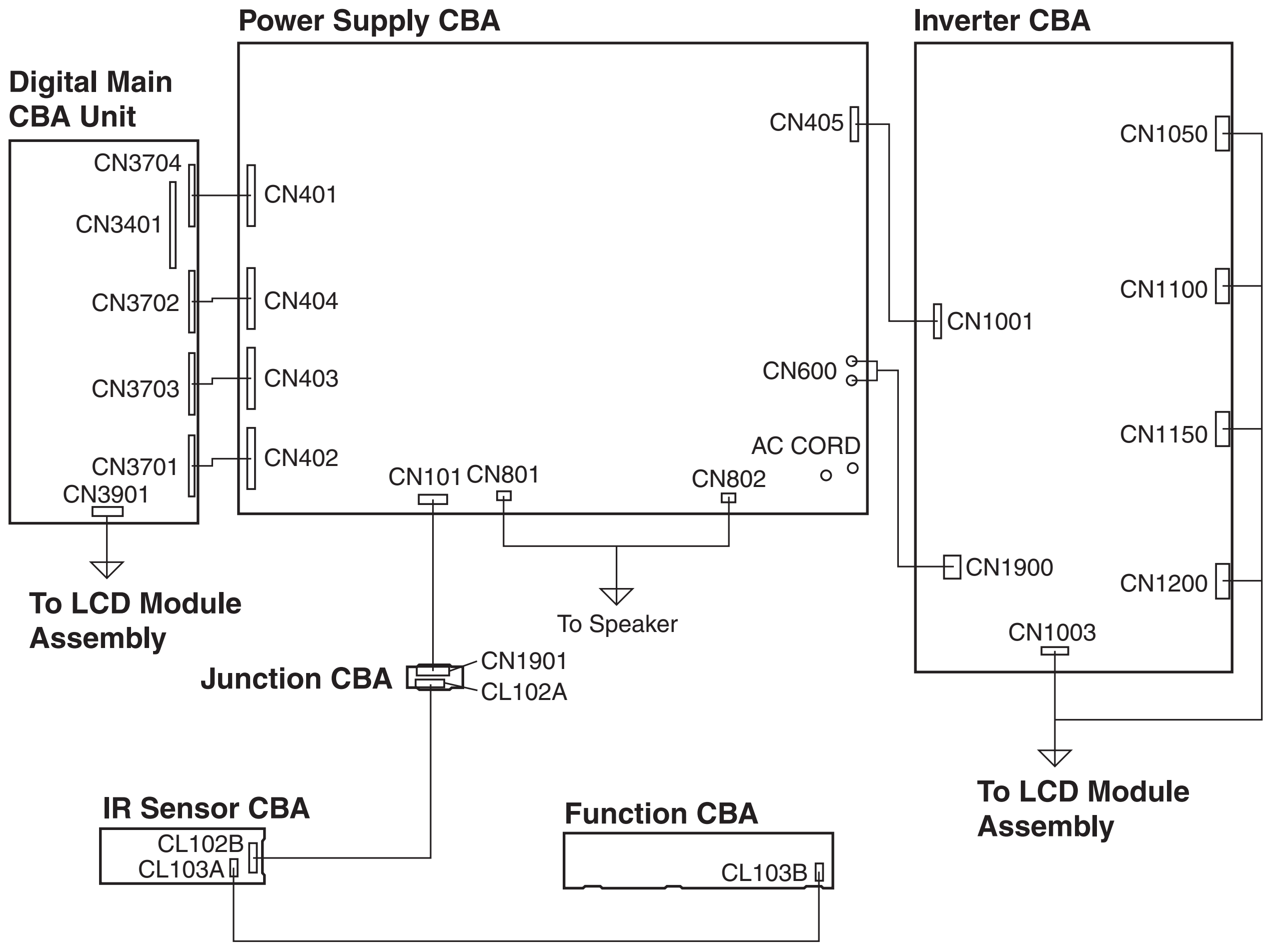


Fig. D4

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: “CBA” is abbreviation for “Circuit Board Assembly.”

Note: Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed.
Also, do not attempt these adjustments unless the proper equipment is available.

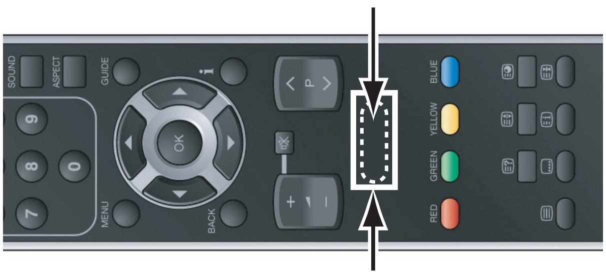
Test Equipment Required

1. DC Voltmeter
2. Pattern Generato
3. Color Analyzer

How to make the Service remote control unit:

Cut “A” portion of the attached remote control unit as shown in Fig. 1.

service button



A

Fig. 1

How to set up the service mode:

Service mode:

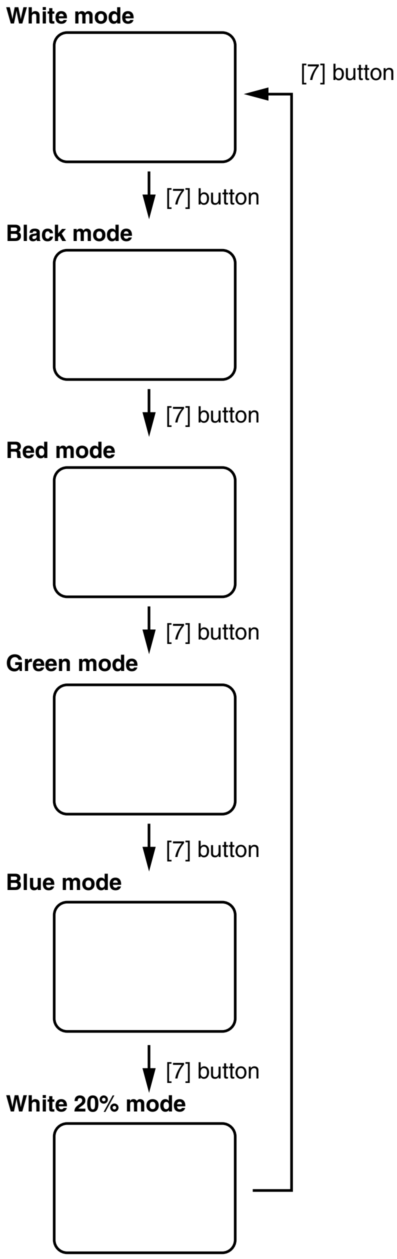
1. Use the service remote control unit.
2. Turn the power on.
3. Press the service button on the service remote control unit as shown in Fig.1.

1. Purity Check Mode

This mode cycles through full-screen displays of red, green, blue, and white to check for non-active pixels.

1. Enter the Service mode.
2. Each time pressing [7] button on the service remote control unit, the display changes as follows.

Purity Check Mode

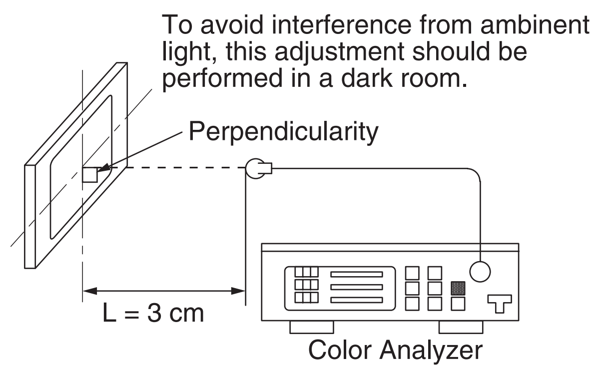


Note:
When entering this mode, the default setting is White mode.

2. VCOM Adjustment.

Test Point	Adj. Point
Screen	[P ∧ / ∨] buttons
M. EQ.	**Spec.**
Color analyzer	See below

Figure



1. Operate the unit for more than 20 minutes.
2. Set the color analyzer and bring the optical receptor to the center on the LCD-Panel surface after zero point calibration as shown above.
   Note: The optical receptor must be set perpendicularly to the LCD Panel surface.
3. Enter the Service mode.
4. Press [3] button on the service remote control unit.
5. Press [P ∧ / ∨] buttons on the service remote control unit so that the color analyzer value becomes minimum.

3. Auto Calibration [Component]

Purpose: To bring the color adjustment of each component into standard alignment.

Symptom of Misadjustment: If this adjustment is incorrect, component signals do not reproduce the corresponding color.

1. Input 720P 100% Color Bar signal.
2. Enter the service mode.
3. To enter the Auto Calibration adjustment mode, press [6] button on the service remote control unit.
4. To start auto adjustment, press [P ∧] button on the service remote control unit.
   - In the auto adjustment mode, "Calibration Check" appears on the screen.
   - Upon completion, "OK" appears on the screen.

4. Auto Calibration [PC]

Purpose: To bring the color adjustment of PC into standard alignment.

Symptom of Misadjustment: If this adjustment is incorrect, PC signals do not reproduce the corresponding color.

1. Input SVGA 100% White signal.
2. Enter the service mode.
3. To enter the Auto Calibration adjustment mode, press [5] button on the service remote control unit.
4. To start auto adjustment, press [P ∧] button on the service remote control unit.
   - In the auto adjustment mode, "Calibration Check" appears on the screen.
   - Upon completion, "OK" appears on the screen.

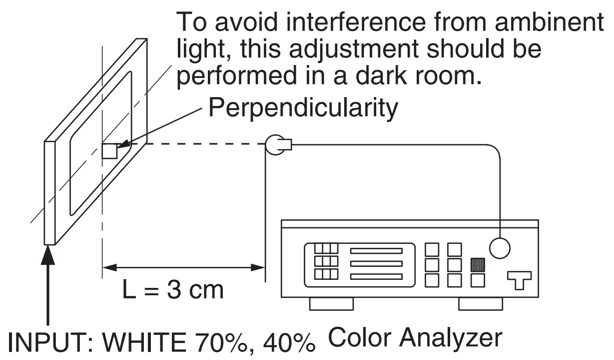
The following adjustment normally are not attempted in the field. Only when replacing the LCD Panel then adjust as a preparation.

5. White Balance Adjustment [Video/Component/PC]

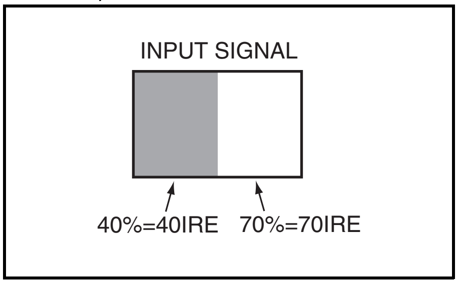
Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	[P ∧ / ∨] buttons	**[VIDEO]** C/D	White Raster (APL 70%) or (APL 40%)
M. EQ.		**Spec.**	
Pattern Generator, Color analyzer		x= 0.286 ± 0.005 y= 0.295 ± 0.005	
Figure			



1. Operate the unit for more than 20 minutes.
2. [VIDEO input]
   Input the White Raster (70%=70IRE, 40%=40IRE).
   [Component input]
   Input the 720P White Raster (70%=70IRE, 40%=40IRE).
   [PC input]
   Input the SVGA White Raster (70%=70IRE, 40%=40IRE).



3. Set the color analyzer to the CHROMA mode and bring the optical receptor to the center on the LCD-Panel surface after zero point calibration as shown above.
   Note: The optical receptor must be set perpendicularly to the LCD Panel surface.
4. Enter the Service mode. Press [◢ -] button on the service remote control unit and select “C/D” mode.
5. **[CUTOFF]**
   Press [3] button to select “COB” for Blue Cutoff adjustment. Press [1] button to select “COR” for Red Cutoff adjustment.
   [DRIVE]
   Press [6] button to select “DB” for Blue Drive adjustment. Press [4] button to select “DR” for Red Drive adjustment.
6. In each color mode, press [P ∧ / ∨] buttons to adjust the values of color.
7. Adjust Cutoff and Drive so that the color temperature becomes 9200°K (x= 0.286 / y= 0.295 ±0.005).
8. Change the video signal input in step 2 and repeat from step 3.

HOW TO INITIALIZE THE LCD TELEVISION

How to initialize the LCD television:

1. Turn the power on.
2. To enter the service mode, press the service button on the service remote control unit. (Refer to page 5-1.)
   - To cancel the service mode, Press [⏻] button on the remote control unit.
3. Press [i] button on the service remote control unit to initialize the LCD television.
4. "INITIALIZED" will appear in the upper right of the screen. "INITIALIZED" color will change to green from red when initializing is complete.

TROUBLESHOOTING

FLOW CHART NO.1

The power cannot be turned on.

↓

Is the fuse (F601) normal? — No → See FLOW CHART No.2 <The fuse blows out.>

↓ Yes

Is normal state restored when once unplugged power cord is plugged again several seconds? — No → Check if there is any leak or short-circuiting on the primary circuit component, and service it if defective. (IC607, Q601, Q602, D609, D610, D611, D612, T601, R601)

↓ Yes

Is the P-ON+5V line voltage normal? — No → Check if there is any leak or short-circuiting on the primary circuit component, and service it if defective. (IC607, Q601, Q602, D609, D610, D611, D612, T601, R601)

↓ Yes

Check each rectifying circuit of the secondary circuit and service it if defective.

FLOW CHART NO.2

The fuse blows out.

↓

Check the presence that the primary component is leaking or shorted and service it if defective.

Check the presence that the rectifying diode or circuit is shorted in each rectifying circuit of secondary side, and service it if defective.

↓

After servicing, replace the fuse (F601).

FLOW CHART NO.3

When the output voltage fluctuates.

↓

Does the photocoupler circuit on the secondary side operate normally? — No → Check IC607, Q513, Q522 and their periphery, and service it if defective.

↓ Yes

Check IC607, D614, D615 and their periphery, and service it if defective.

FLOW CHART NO.4

When buzz sound can be heard in the vicinity of power circuit.

↓

Check if there is any short-circuit on the rectifying diode and the circuit in each rectifying circuit of the secondary side, and service it if defective. (D504, D511, D514, D523, D524, D525, D539, Q405, Q501, Q503, Q509, Q510, Q517, Q518, Q521)

FLOW CHART NO.5

INV+16V is not output.

↓

Is approximately 16V voltage supplied to the collector of Q501?
- No → Check D504, D505, C503 and their periphery circuit, and service it defective.
- Yes ↓

Is approximately 16V voltage supplied to the base of Q501?
- No → Check D506, D507 and their periphery circuit, and service it defective.
- Yes ↓

Replace Q501.

FLOW CHART NO.6

AL+3.3V is not output.

↓

Is approximately 7V voltage supplied to the collector of Q521?
- No → Check D525, C516 and their periphery circuit, and service it if defective.
- Yes ↓

Is approximately 4V voltage supplied to the base of Q521?
- No → Check D552 and their periphery circuit, and service it if defective.
- Yes ↓

Replace Q521.

FLOW CHART NO.7

P-ON+5V is not output.

↓

Is approximately 7V voltage supplied to the collector of Q518?
- No → Check D525, C516 and their periphery circuit, and service it if defective.
- Yes ↓

Is approximately 6V voltage supplied to the base of Q518?
- No → Check Q520, D543 and their periphery circuit, and service it if defective.
- Yes ↓

Replace Q518.

FLOW CHART NO.8

LCD+24V is not output.

- Is approximately 36V voltage supplied to the cathode of D514?
  - No → Check D514, D516, C511 and their periphery circuit, and service it if defective.
  - Yes ↓
- Is approximately 36V voltage outputted to the collector of Q504?
  - Yes → Check Q504, Q505, P-ON-H1 line and their periphery circuit, and service it if defective.
  - No ↓
- Is approximately 24V voltage supplied to the emitter of Q405?
  - No → Check D508, D512 and their periphery circuit, and service it if defective.
  - Yes ↓
- Check Q404, Q405 and their periphery circuit, and service it if defective.

FLOW CHART NO.9

LCD+16V is not output.

- Is approximately 16V voltage supplied to the cathode of D504?
  - No → Check D504, D505, C503 and their periphery circuit, and service it if defective.
  - Yes ↓
- Is approximately 16V voltage supplied to the base of Q503?
  - No → Check D506, D507 and their periphery circuit, and service it if defective.
  - Yes ↓
- Replace Q503.

FLOW CHART NO.10

LCD-6.8V is not output.

- Is approximately -7V voltage supplied to the anode of D522?
  - No → Check D522, C514 and their periphery circuit, and service it if defective.
  - Yes ↓
- Is approximately -6V voltage supplied to the base of Q509?
  - No → Check D513, R530 and their periphery circuit, and service it if defective.
  - Yes ↓
- Replace Q509.

FLOW CHART NO.11

AL+5V is not output.

↓

Is approximately 5V voltage supplied to the cathode of D523?

- No → Check D523, D524, C515 and their periphery circuit, and service it if defective.
- Yes ↓

Check if there is any leak or short-circuit on the loaded circuit, and service it if defective.

FLOW CHART NO.12

P-ON+3.3V is not output.

↓

Is approximately 5V voltage supplied to the collector of Q510?

- No → Check D523, C515 and their periphery circuit, and service it if defective.
- Yes ↓

Is approximately 4V voltage supplied to the base of Q510?

- No → Check Q508, Q511, D526, P-ON-H2 line and their periphery circuit, and service it if defective.
- Yes ↓

Replace Q510.

FLOW CHART NO.13

P-ON+9V is not output.

↓

Is approximately 13V voltage supplied to the collector of Q517?

- No → Check D539, C522 and their periphery circuit, and service it if defective.
- Yes ↓

Is approximately 10V voltage supplied to the base of Q517?

- No → Check Q520, D541, D542 and their periphery circuit, and service it if defective.
- Yes ↓

Replace Q517.

FLOW CHART NO.14

The key operation is not functioning.

↓

Are the contact point and installation state of the key switches (SW101A, SW103A-SW107A) normal?

- No → Re-install the switches (SW101A, SW103A-SW107A) correctly or replace the poor switch.
- Yes ↓

When pressing each switches (SW101A, SW103A-SW107A) do the voltage of Pin(11) on CN403 increase?

- No → Check the switches (SW101A, SW103A-SW107A) and their periphery, and service it if defective.
- Yes ↓

Replace Digital Main CBA Unit.

FLOW CHART NO.15

No operation is possible from the remote control unit.

↓

Operation is possible from the unit.

↓

Is 3.3V voltage supplied to Pin(2) of RS102 (remote control receiver)?
- No → Check AL+3.3V line and service it if defective.
- Yes ↓

Is the "L" pulse sent out Pin(1) of RS102 (remote control receiver) when the infrared remote control is activated?
- No → Replace the RS102 (remote control receiver) or remote control unit.
- Yes ↓

Is the "L" pulse supplied to Pin(13) of CN403?
- No → Check the line between Pin(1) of RS102 (remote control receiver) and Pin(13) of CN403, and service it if defective.
- Yes ↓

Replace Digital Main CBA Unit.

FLOW CHART NO.16

Picture does not appear normally. (Video input/S-Video input/Y/Pb/Pr input/RGB input)

↓

Question		Action
Are the video signals outputted to the specific terminal?		Check the line between each pin of CN401 and CN404 and input terminal and service it if defective.
Are the luminance signals outputted to Pin(27) of CN401?	No →	Check the luminance signal line, and service it if defective.
Are the chrominance signals outputted to Pin(29) of CN401?	No →	Check the chrominance signal line, and service it if defective.
Are the component video(Y/Pb/Pr) signals outputted to Pin(4, 6, 8) of CN404?	No →	Check the component video(Y/Pb/Pr) signal line, and service it if defective.
Are the RGB video signals outputted to Pin(26, 28, 29) of CN404?	No →	Check the RGB video signal line, and service it if defective.
Are the composite video signals outputted to Pin(2,12,22) of CN404?	No →	Check the composite video signal line, and service it if defective.

Yes ↓

Replace Digital Main CBA Unit or LCD Module Assembly.

FLOW CHART NO.17

Picture does not appear normally.

- Are the DIF signals outputted to Pin(16, 18) of CN403?
  - No → Check the line between Pin(16, 18) of CN403 and Pin(4, 5) of TU1, and TU1(Tuner Unit), and service it if defective.
  - Yes → Replace Digital Main CBA Unit or LCD Module Assembly.

FLOW CHART NO.18

Audio is not outputted normally. (Tuner input (Digital))

- Are the DIF signals outputted to Pin(16,18) of CN403?
  - No → Check the line between Pin(16, 18) of CN403 and Pin(4, 5) of TU1, and TU1(Tuner Unit), and service it if defective.
  - Yes ↓
- Are the audio(L/R) signals outputted to Pin(8,10) of CN403?
  - No → Replace Digital Main CBA Unit.
  - Yes ↓
- Are the audio(L/R) signals inputted to the Pin(1,44) of IC803?
  - No → Check the line between Pin(8,10) of CN403 and Pin(1,44) of IC803, and service it if defective.
  - Yes ↓
- Are the audio(L/R) signals outputted to CN801 and CN802?
  - No → Check IC803 and the periphery circuit, and service it if defective.
  - Yes → Check SP801,SP802 and their periphery circuit, and service it if defective.

FLOW CHART NO.19

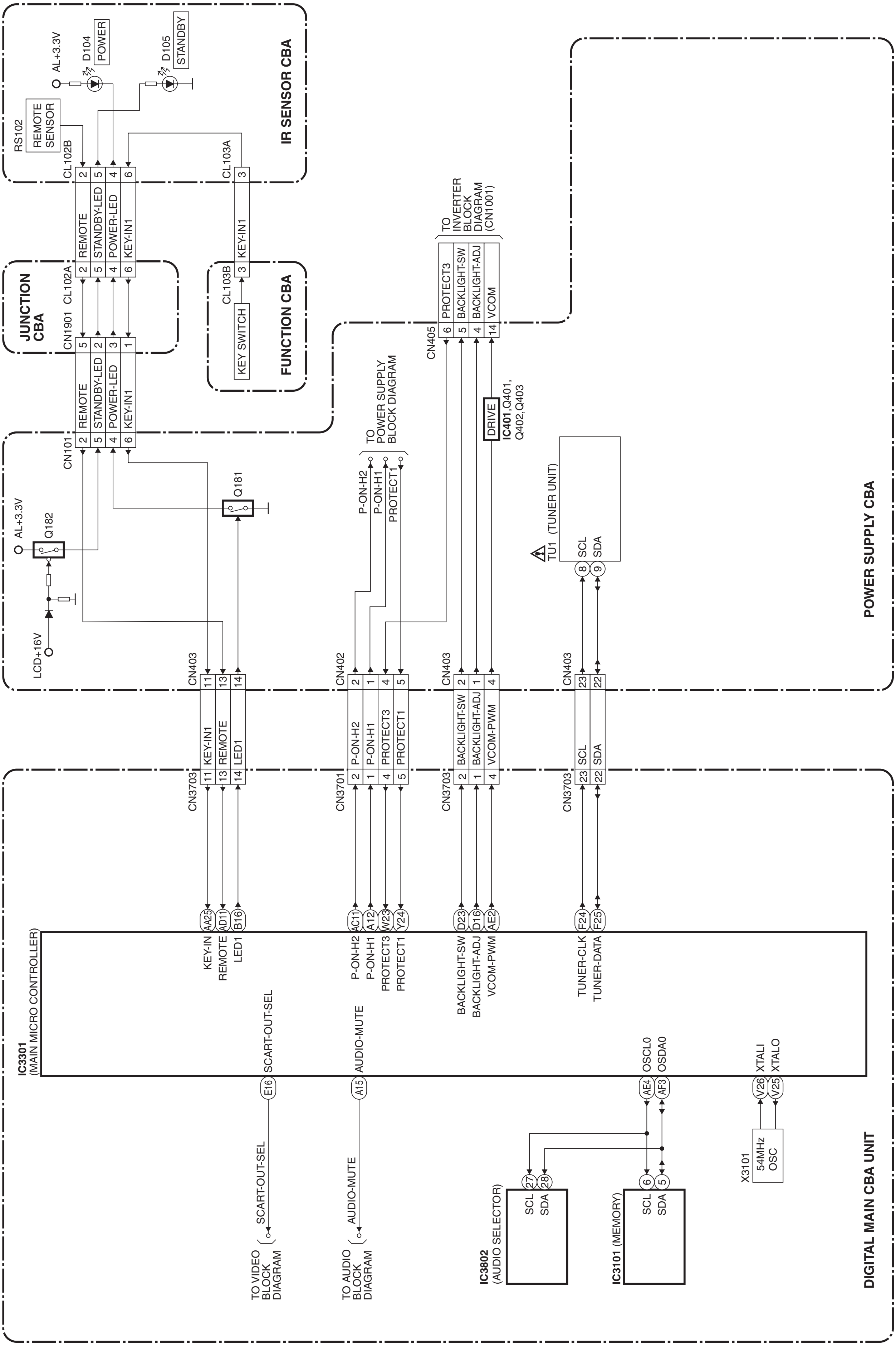
Audio is not outputted normally. (Audio input terminals)

Are the audio(L/R) signals outputted to the specific terminal?		Check the line between each pin of CN401 and input terminal and service it if defective.
Are the audio(L/R) signals outputted to Pin(21,22) of CN401?	No →	Check the audio(L/R) signal line, and service it if defective.
Are the component audio(L/R) signals outputted to Pin(18,19) of CN401?	No →	Check the component audio(L/R) signal line, and service it if defective.
Are the PC audio(L/R) signals outputted to Pin(24,25) of CN401?	No →	Check the PC audio(L/R) signal line, and service it if defective.

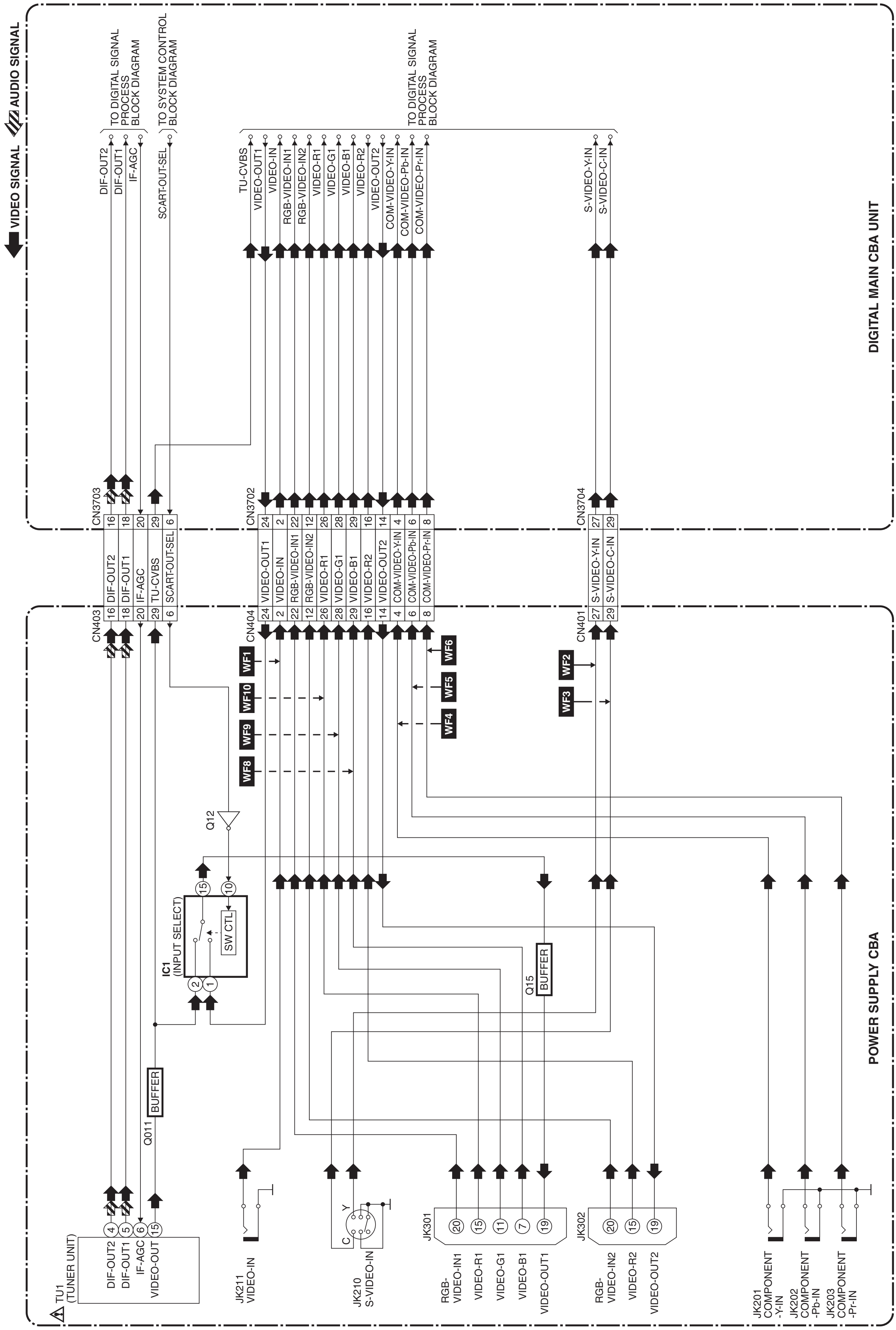
- Yes → Replace Digital Main CBA Unit or LCD Module Assembly.

BLOCK DIAGRAMS

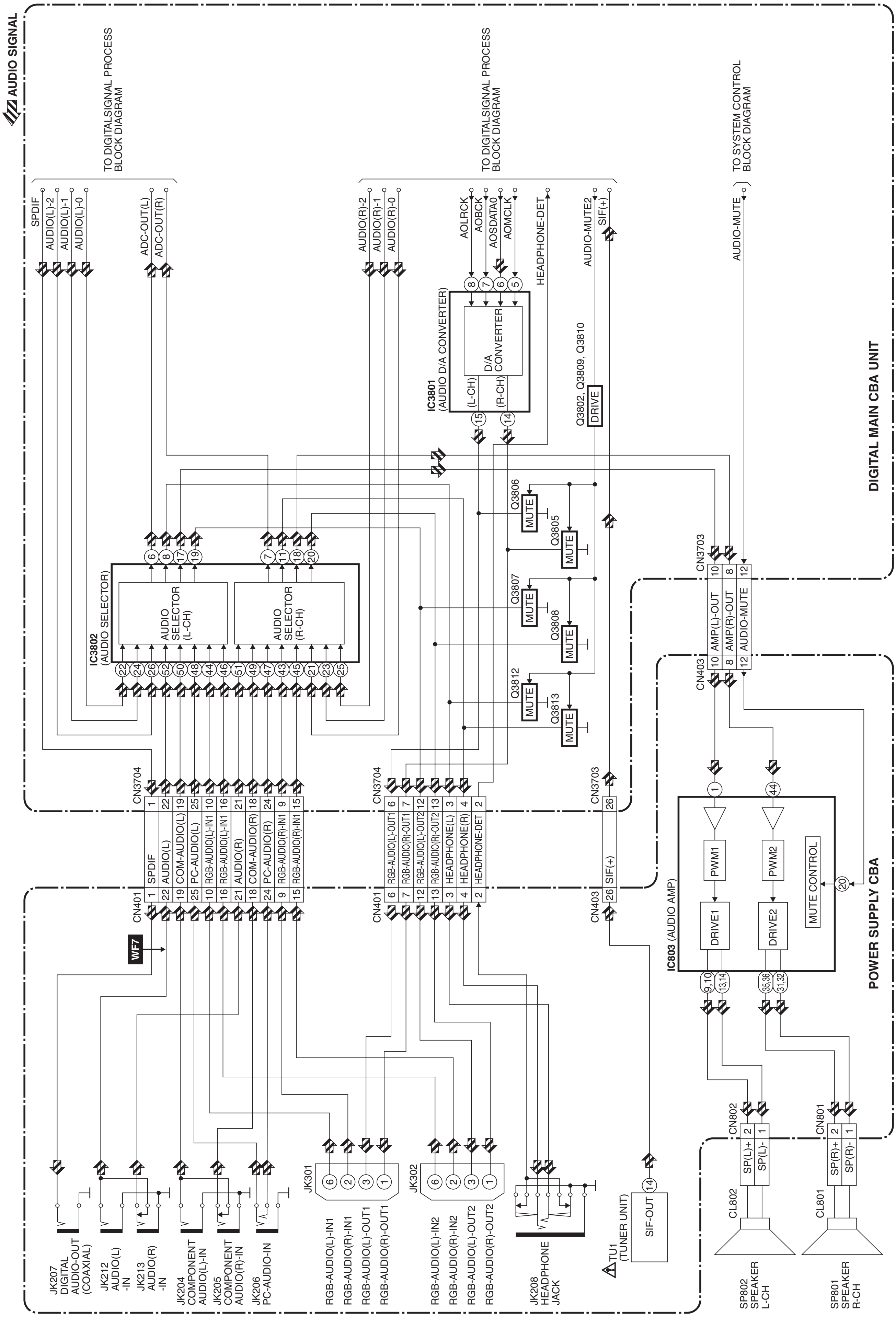
System Control Block Diagram



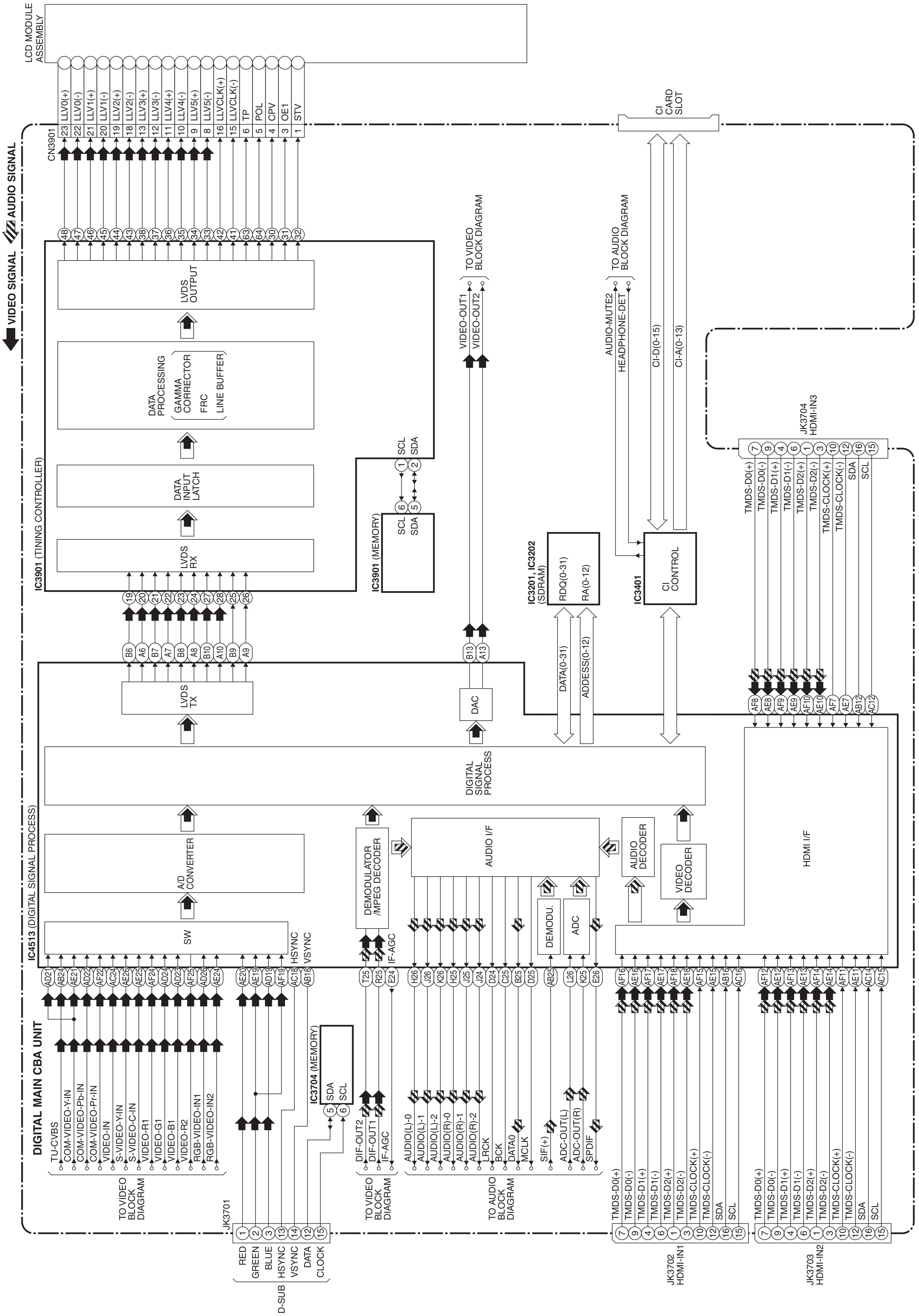
Video Block Diagram



Audio Block Diagram

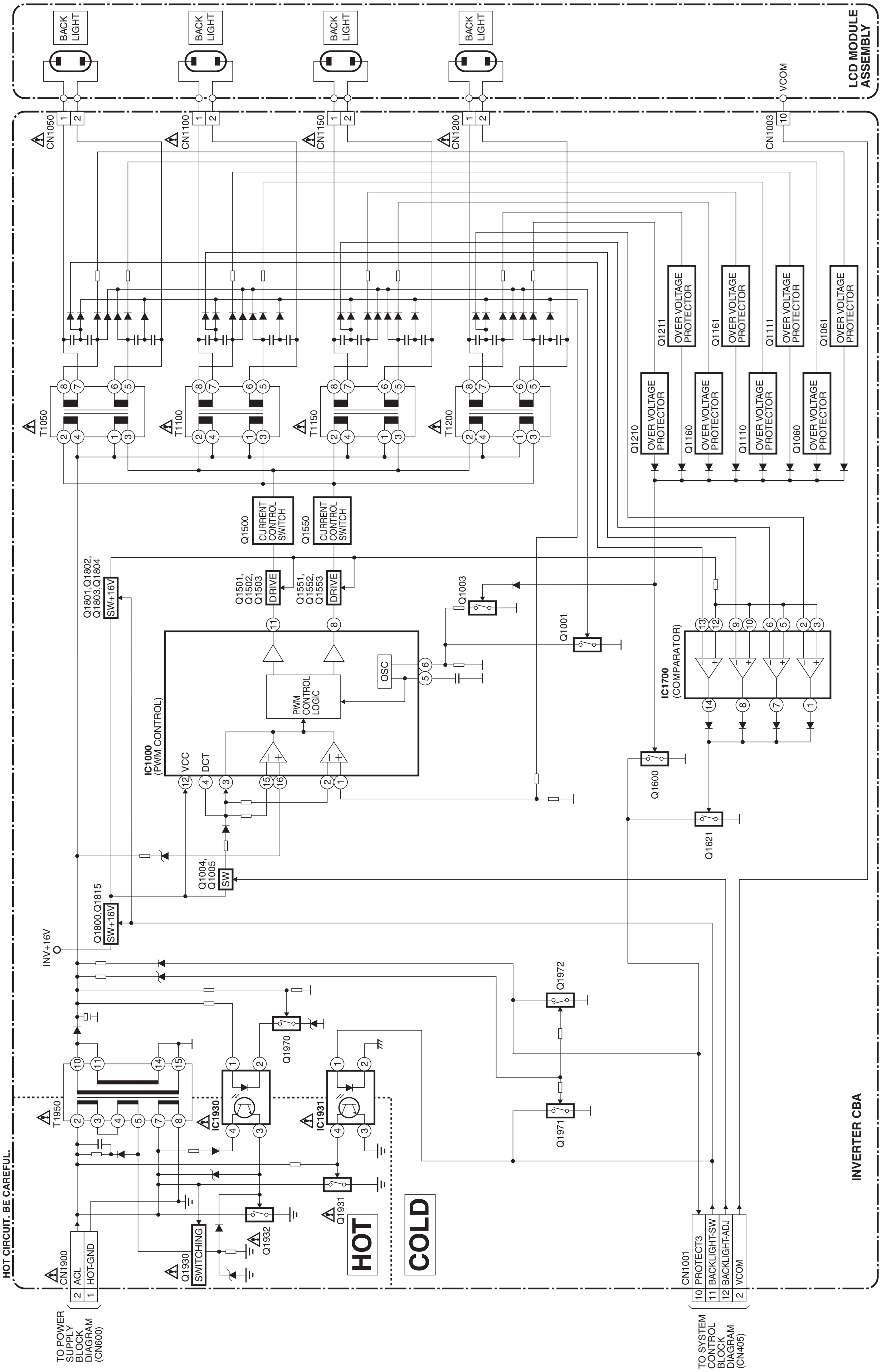


Digital Signal Process Block Diagram



Inverter Block Diagram

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

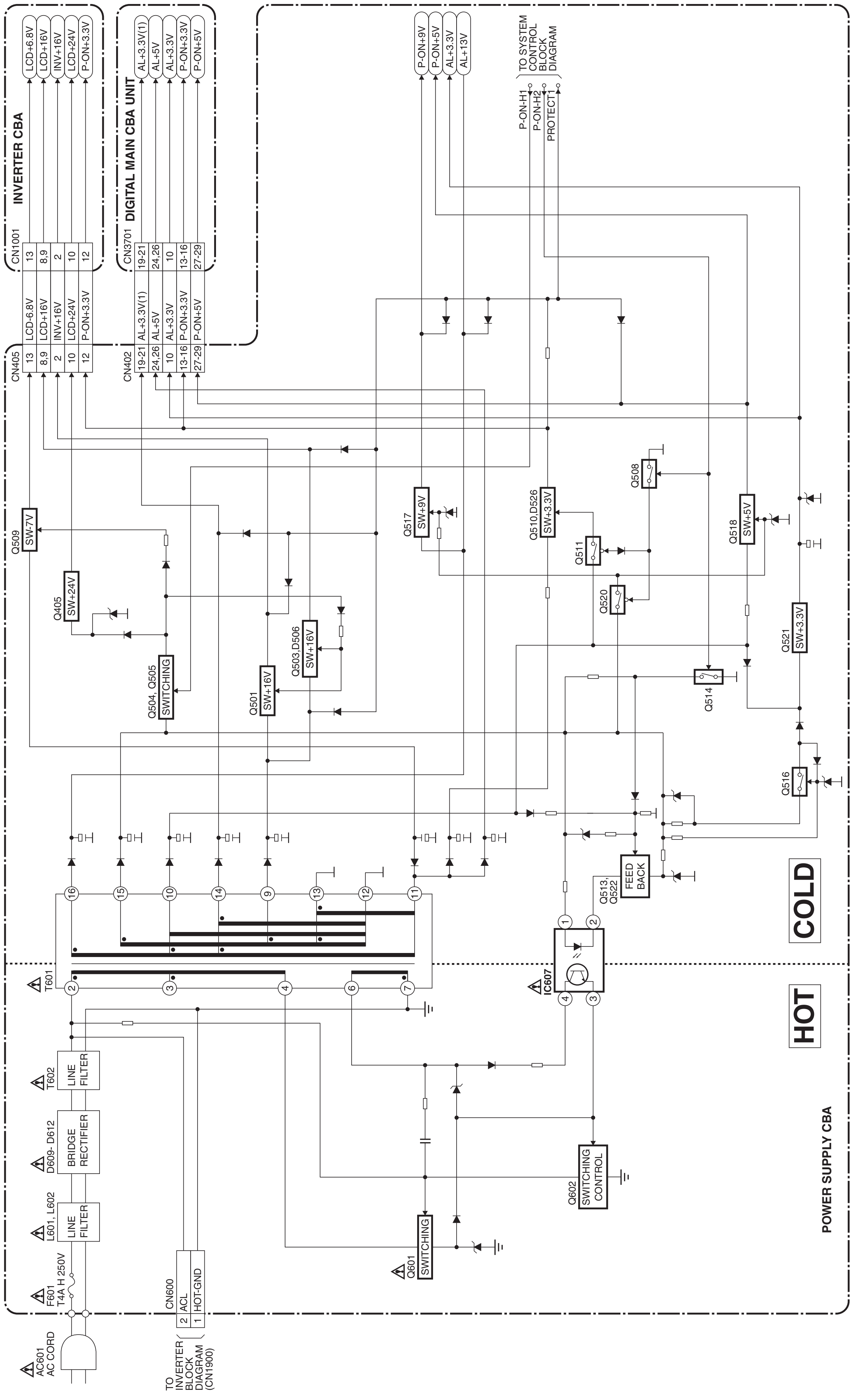


Power Supply Block Diagram

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.
HOT CIRCUIT. BE CAREFUL.

CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



SCHEMATIC DIAGRAMS / CBA AND TEST POINTS

Standard Notes

WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "⚠" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in µF ($P = 10^{-6}$ µF).
5. All voltages are DC voltages unless otherwise specified.

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION:

FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.

2. CAUTION:

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.

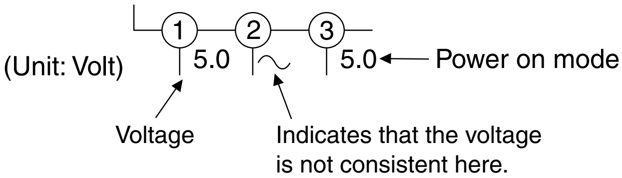
If Main Fuse (F601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. Note:

1. Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Voltage indications on the schematics are as shown below:

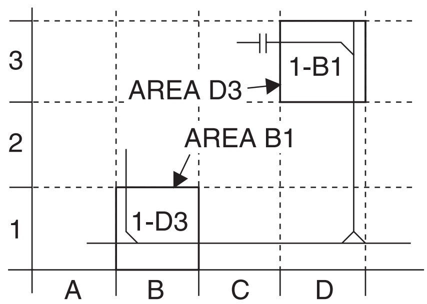
Plug the TV power cord into a standard AC outlet.:



5. How to read converged lines

1-D3
Distinction Area
Line Number
(1 to 3 digits)

Examples:
1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



6. Test Point Information

: Indicates a test point with a jumper wire across a hole in the PCB.

: Used to indicate a test point with a component lead on foil side.

: Used to indicate a test point with no test pin.

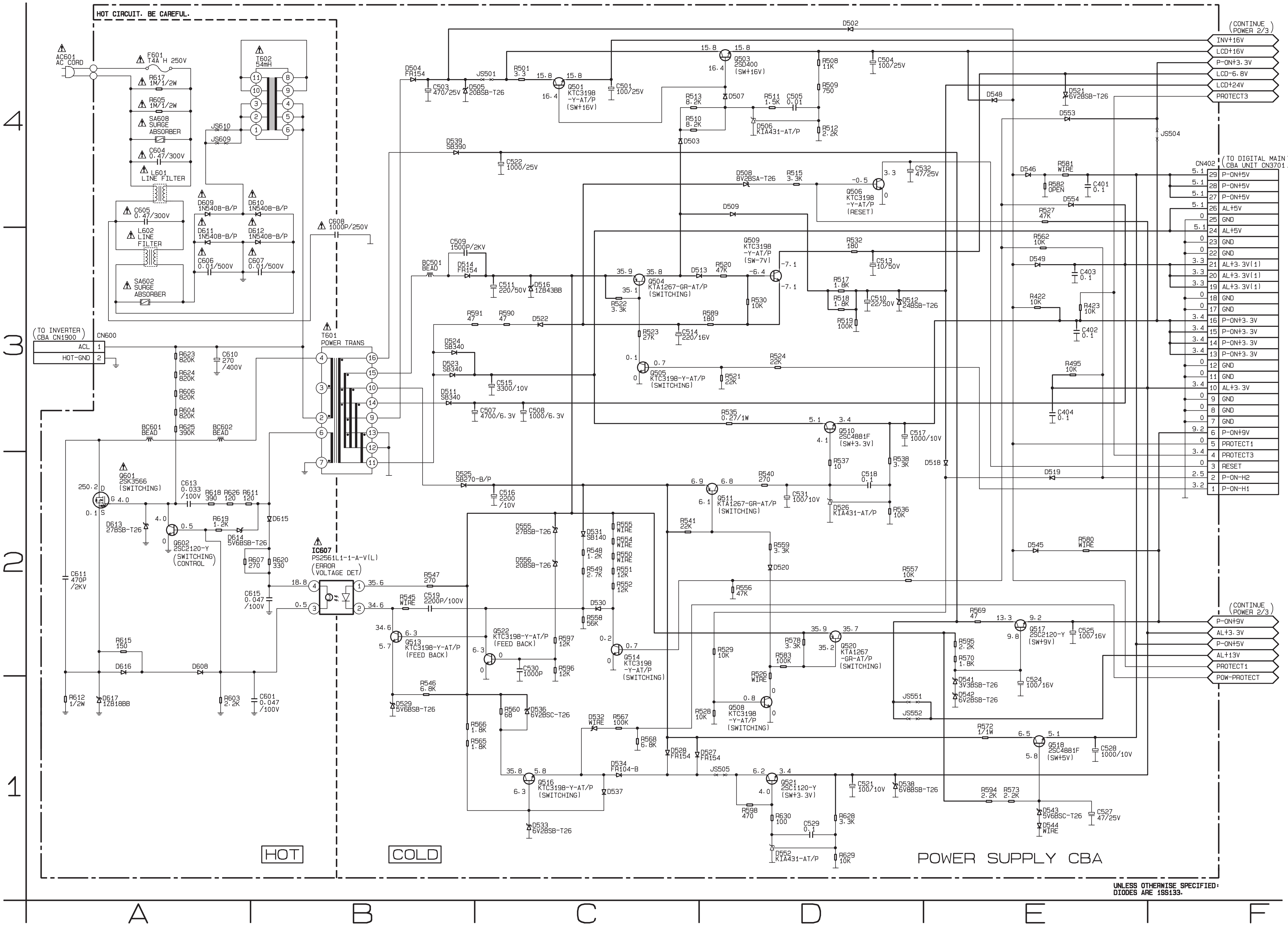
: Used to indicate a test point with a test pin.

Power Supply 1/3 Schematic Diagram

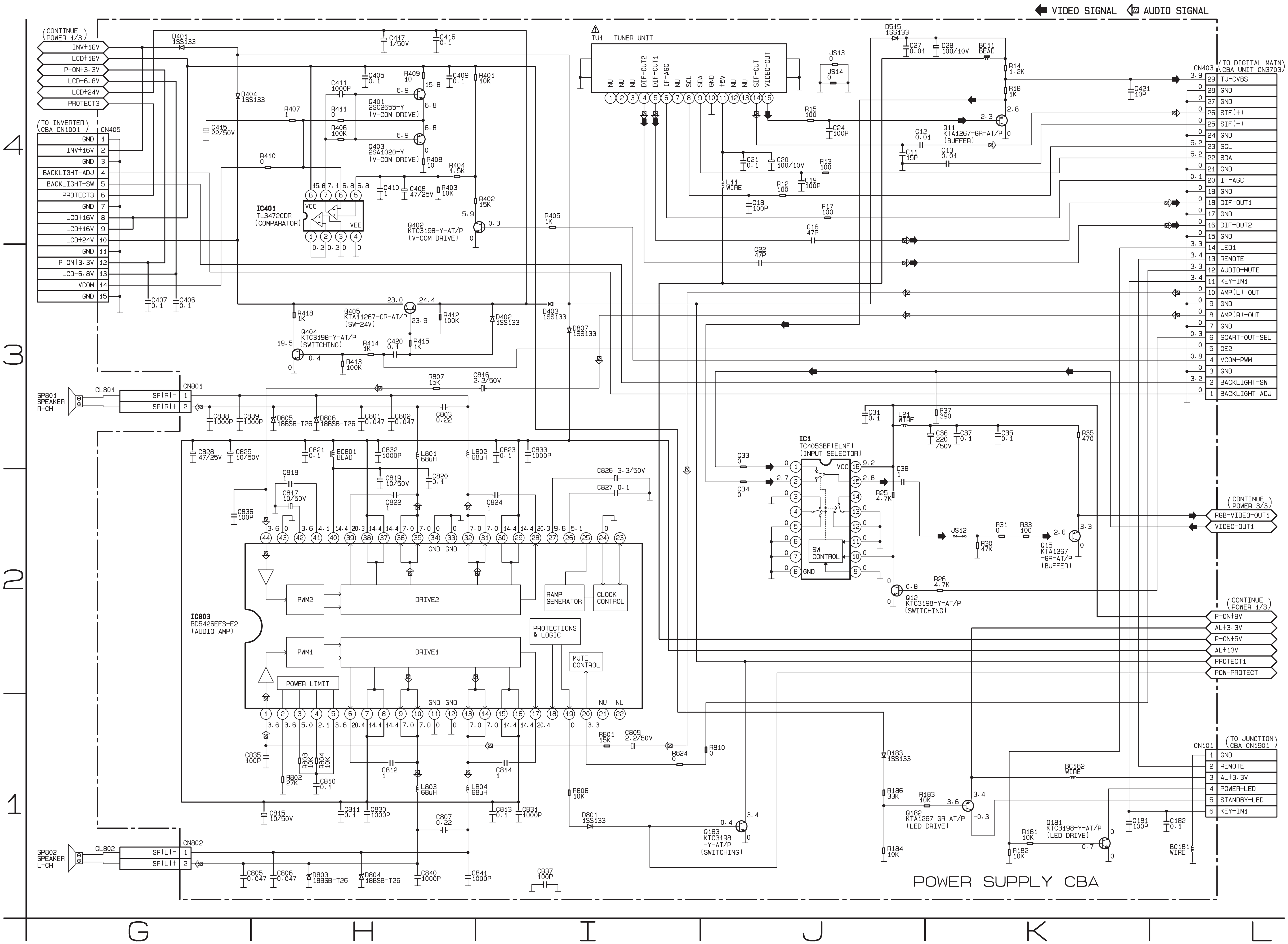
CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

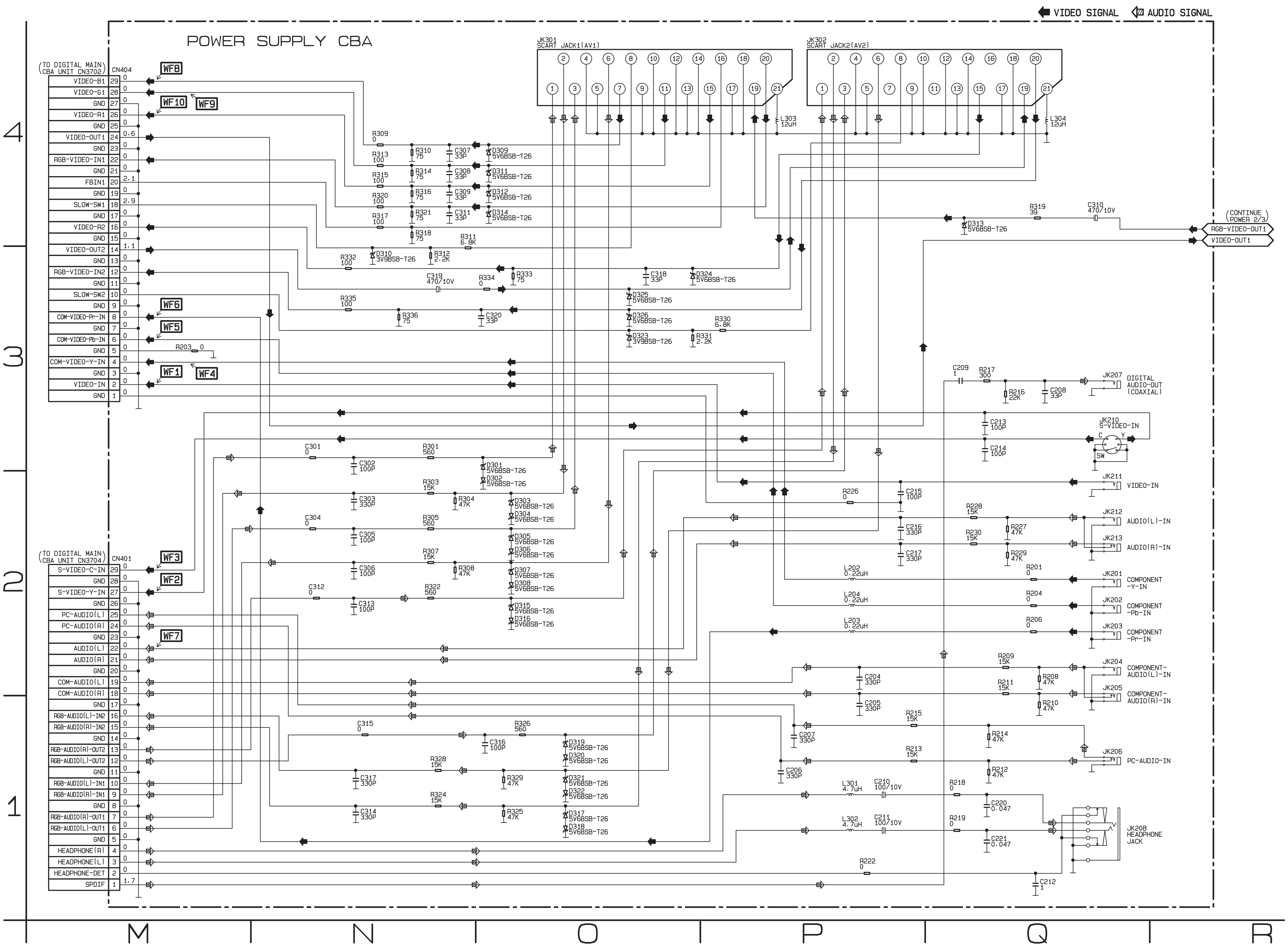
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



Power Supply 2/3 Schematic Diagram

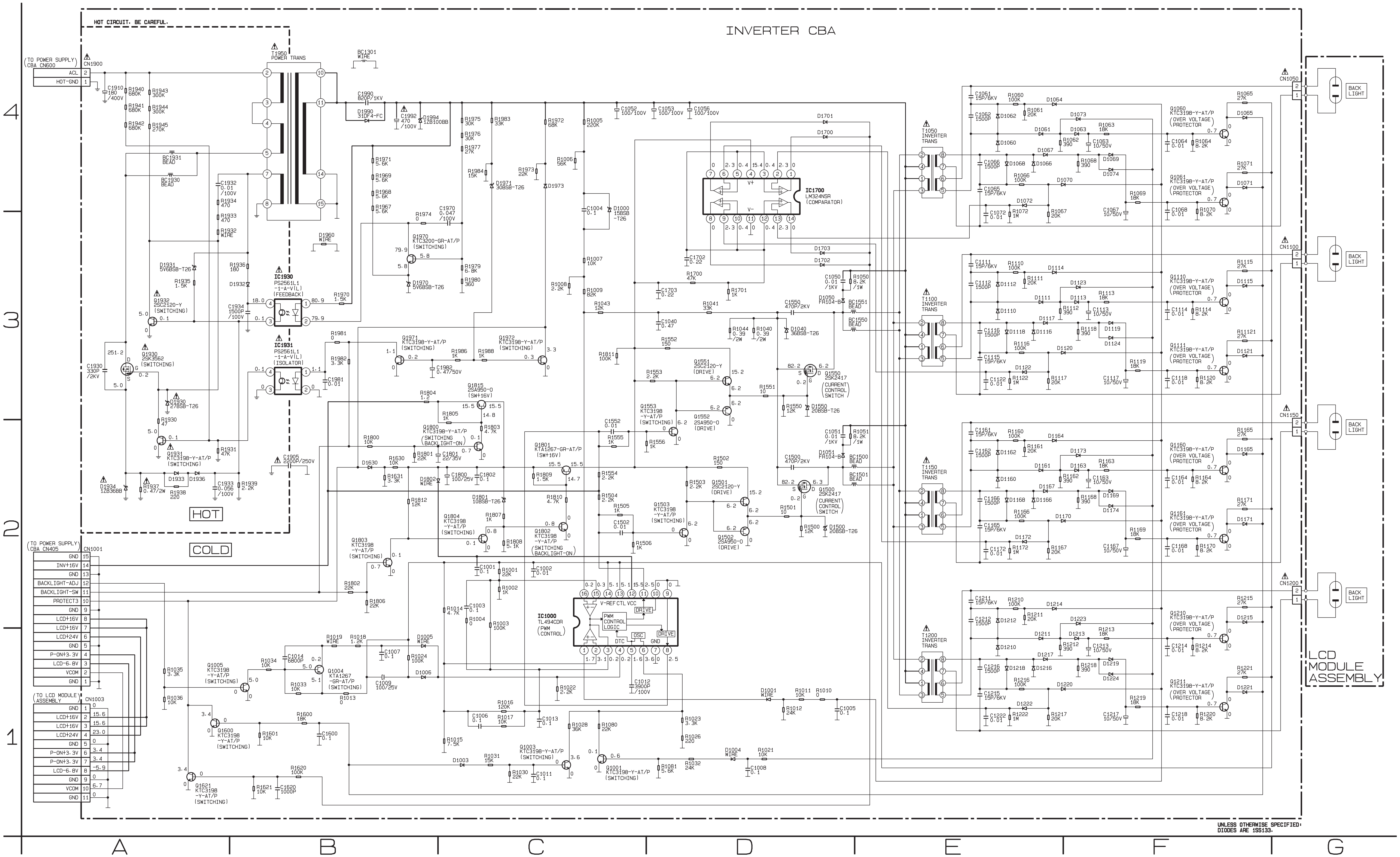


Power Supply 3/3 Schematic Diagram

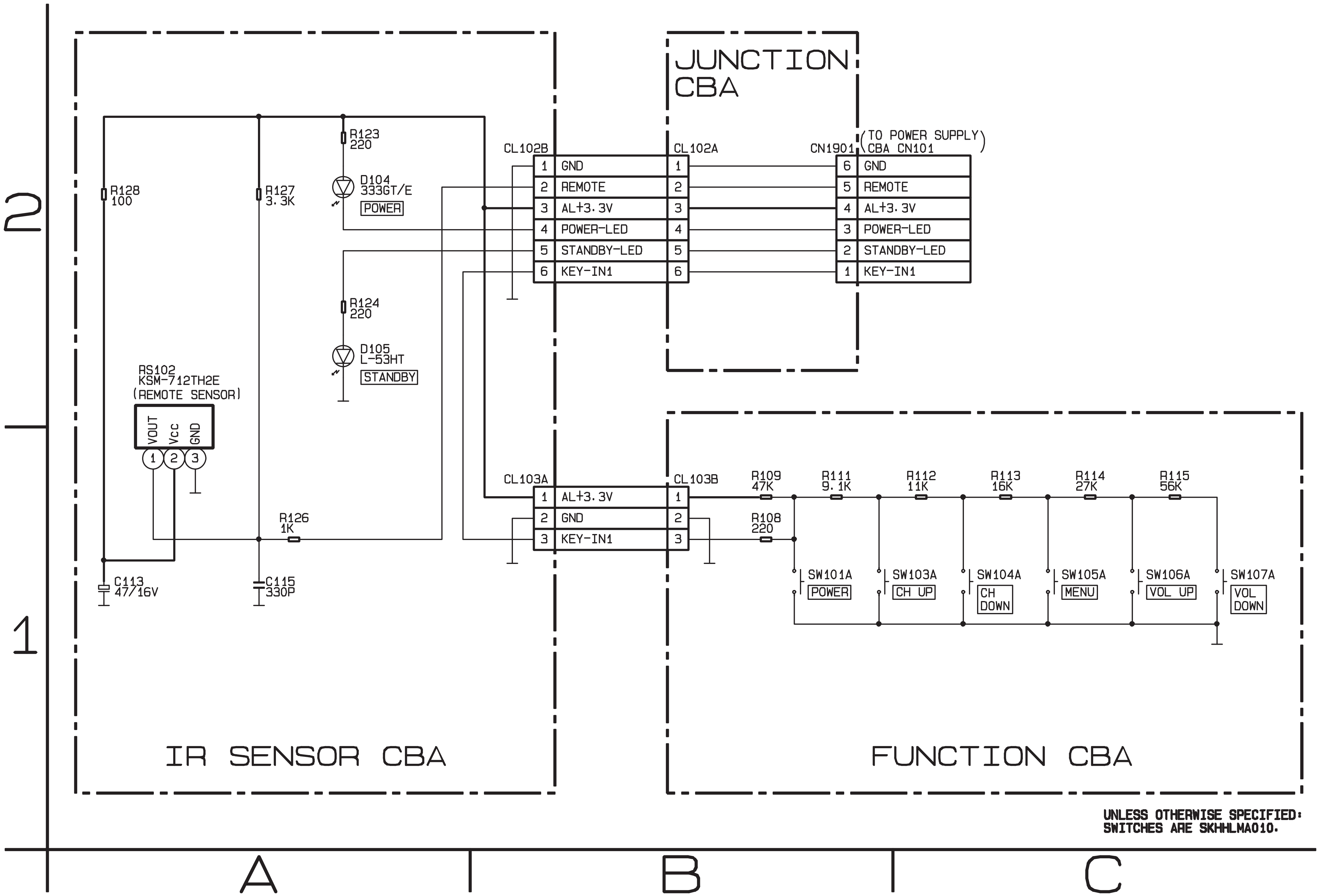


Inverter Schematic Diagram

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

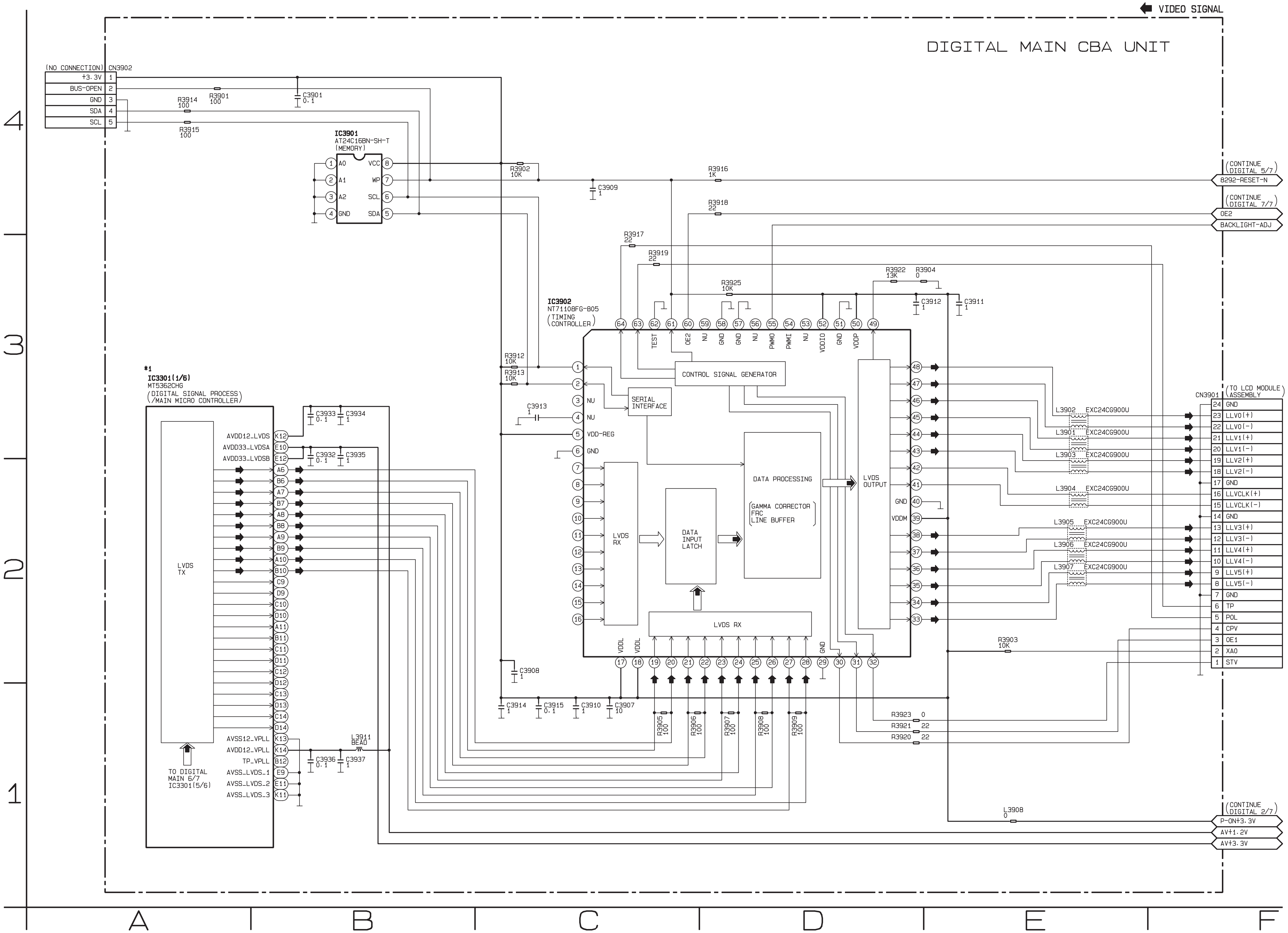


IR Sensor, Function & Junction Schematic Diagram



Digital Main 1/7 Schematic Diagram

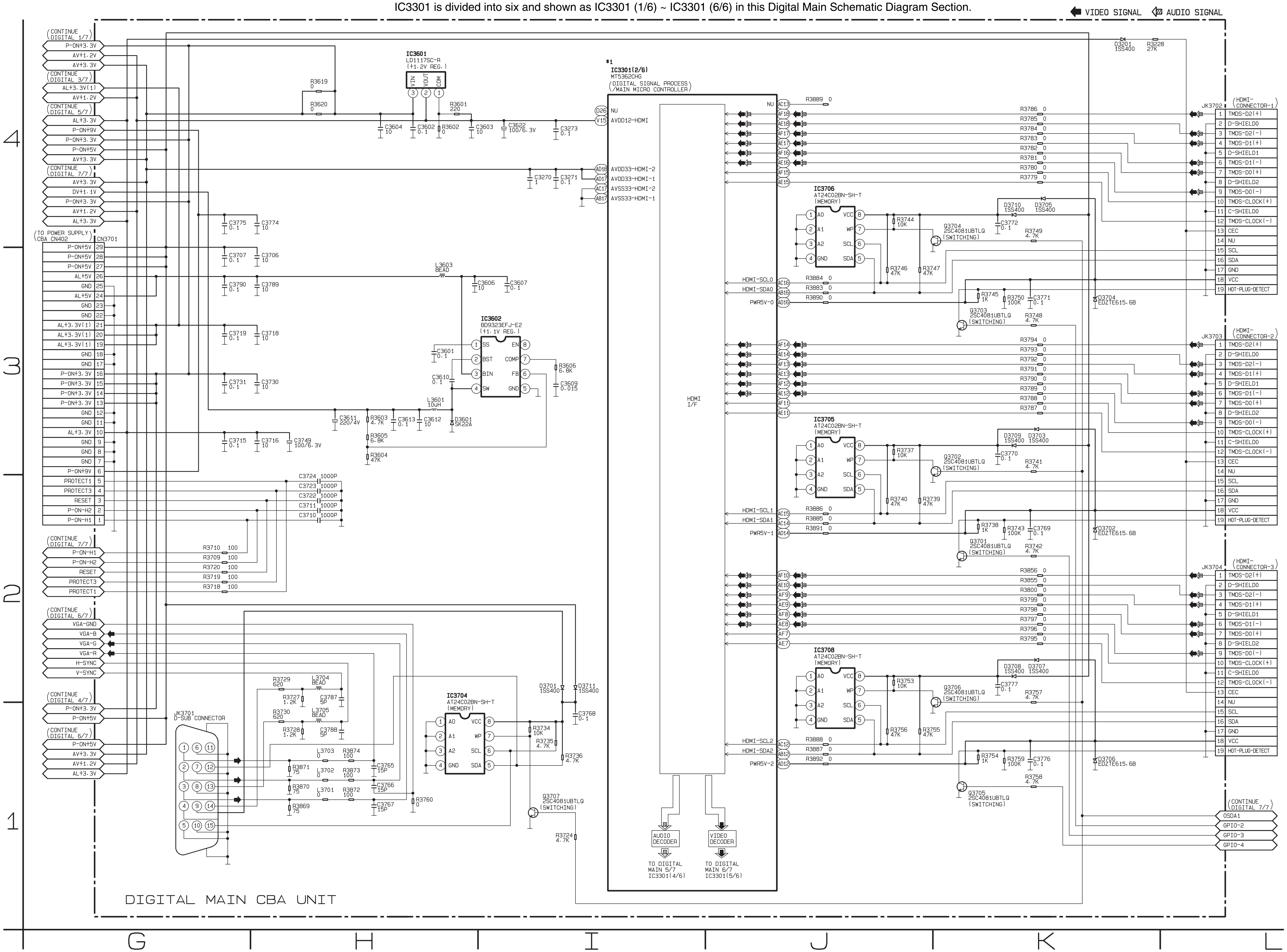
*1 **NOTE:**
The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into six and shown as IC3301 (1/6) ~ IC3301 (6/6) in this Digital Main Schematic Diagram Section.



A93F0SCD1

Digital Main 2/7 Schematic Diagram

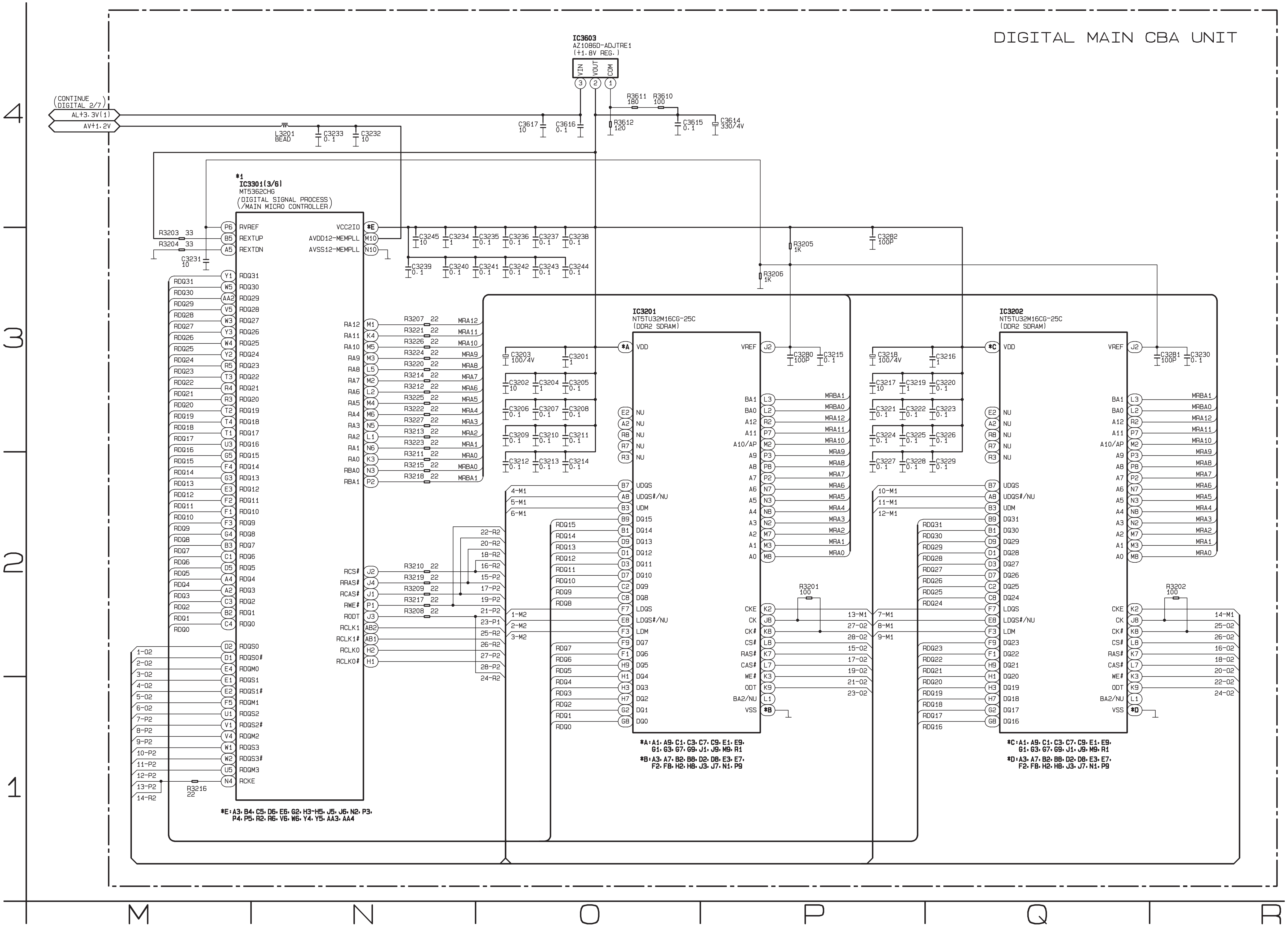
*1 **NOTE:**
The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into six and shown as IC3301 (1/6) ~ IC3301 (6/6) in this Digital Main Schematic Diagram Section.



A93F0SCD2

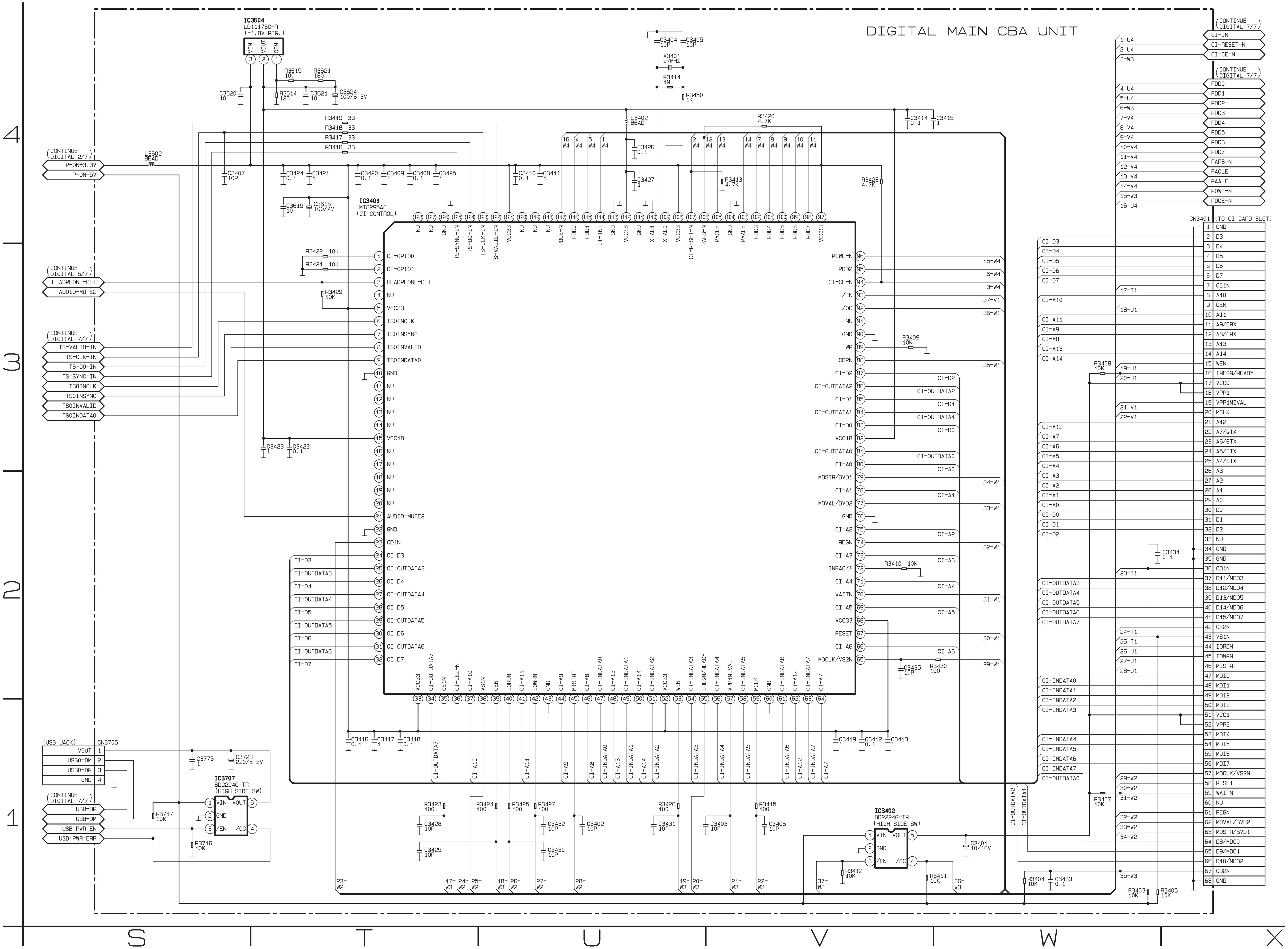
Digital Main 3/7 Schematic Diagram

*1 **NOTE:**
The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into six and shown as IC3301 (1/6) ~ IC3301 (6/6) in this Digital Main Schematic Diagram Section.



A93F0SCD3

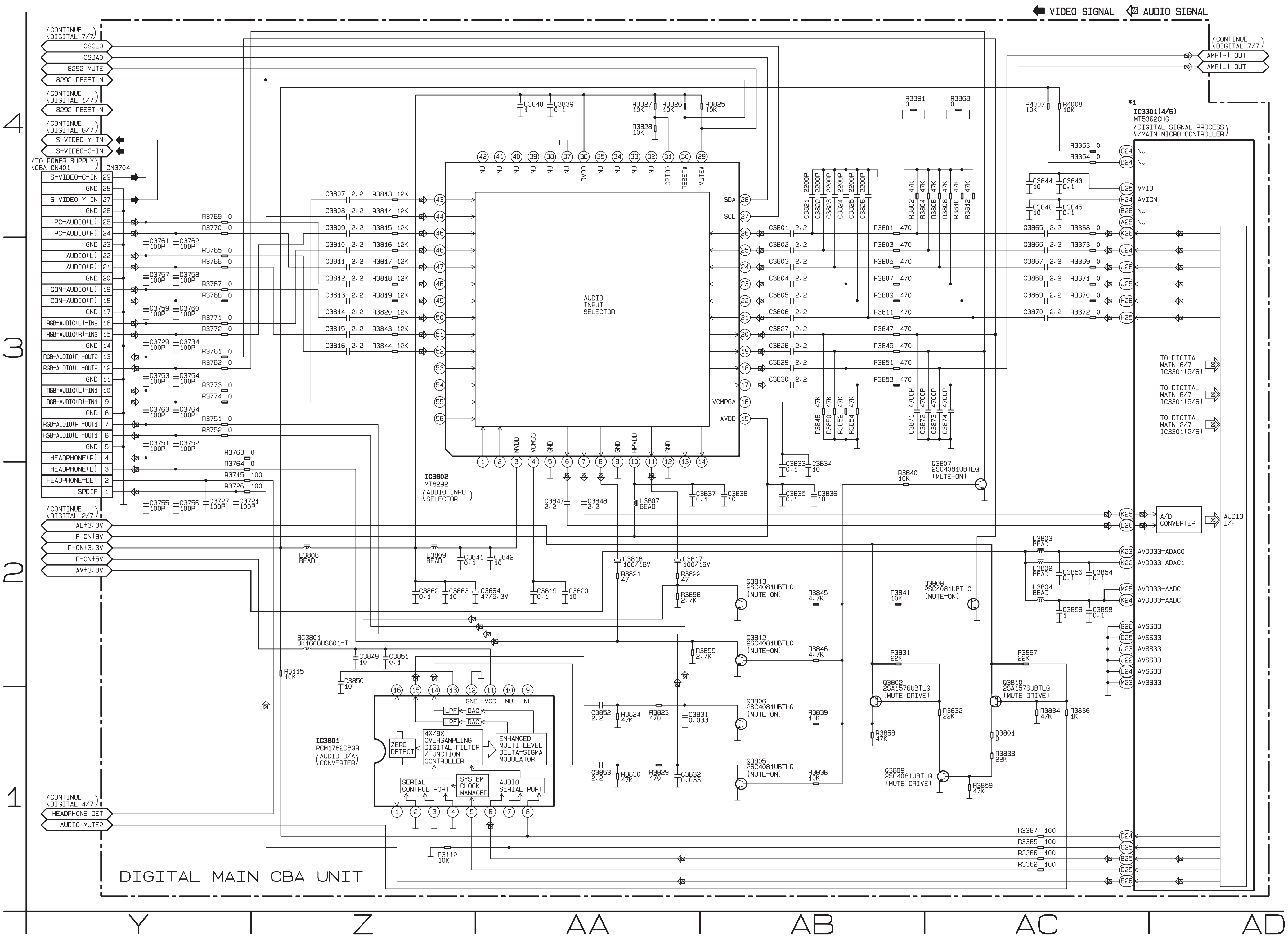
Digital Main 4/7 Schematic Diagram



A93F0SCD4

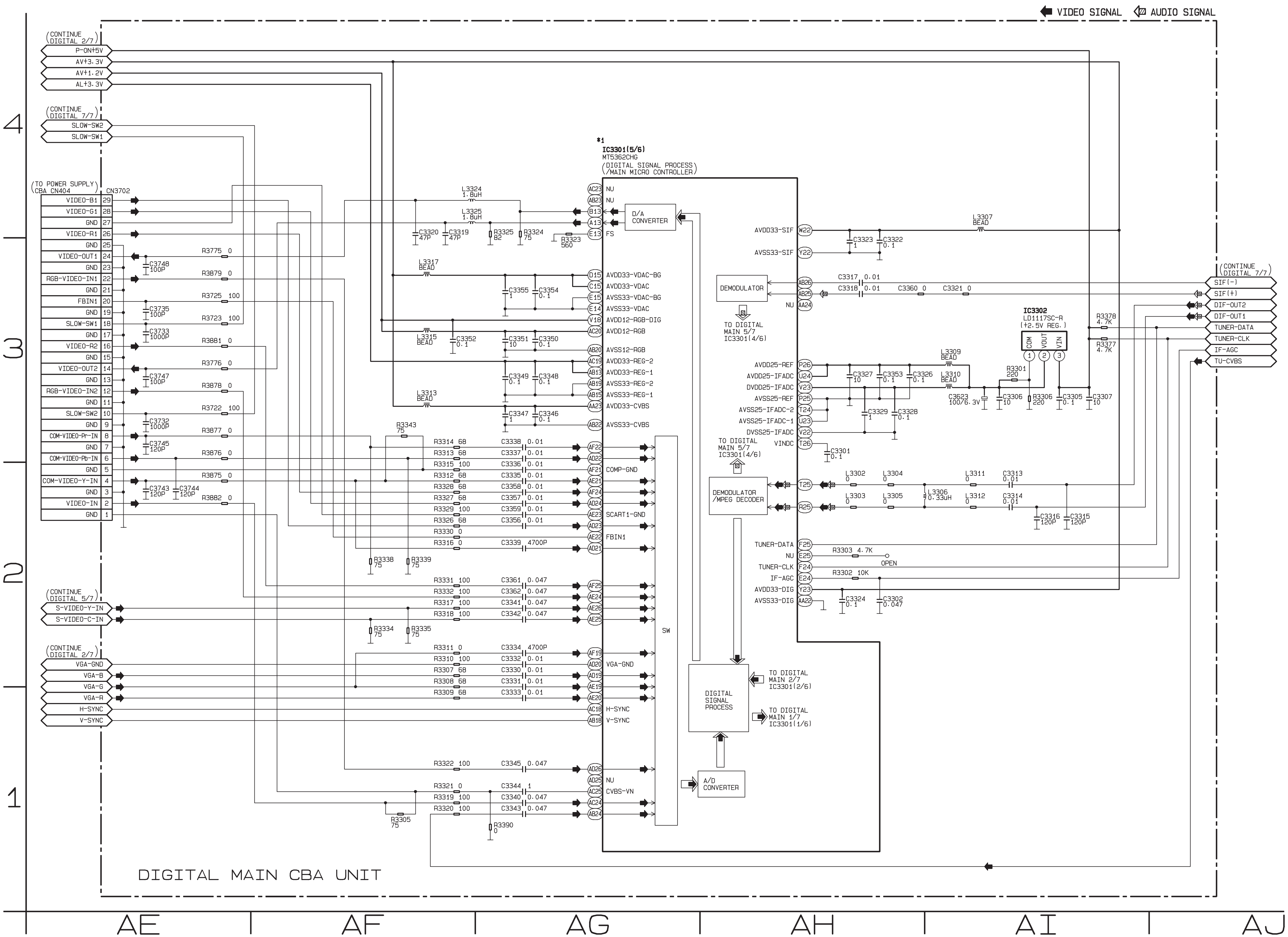
Digital Main 5/7 Schematic Diagram

*1 **NOTE:**
The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into six and shown as IC3301 (1/6) ~ IC3301 (6/6) in this Digital Main Schematic Diagram Section.



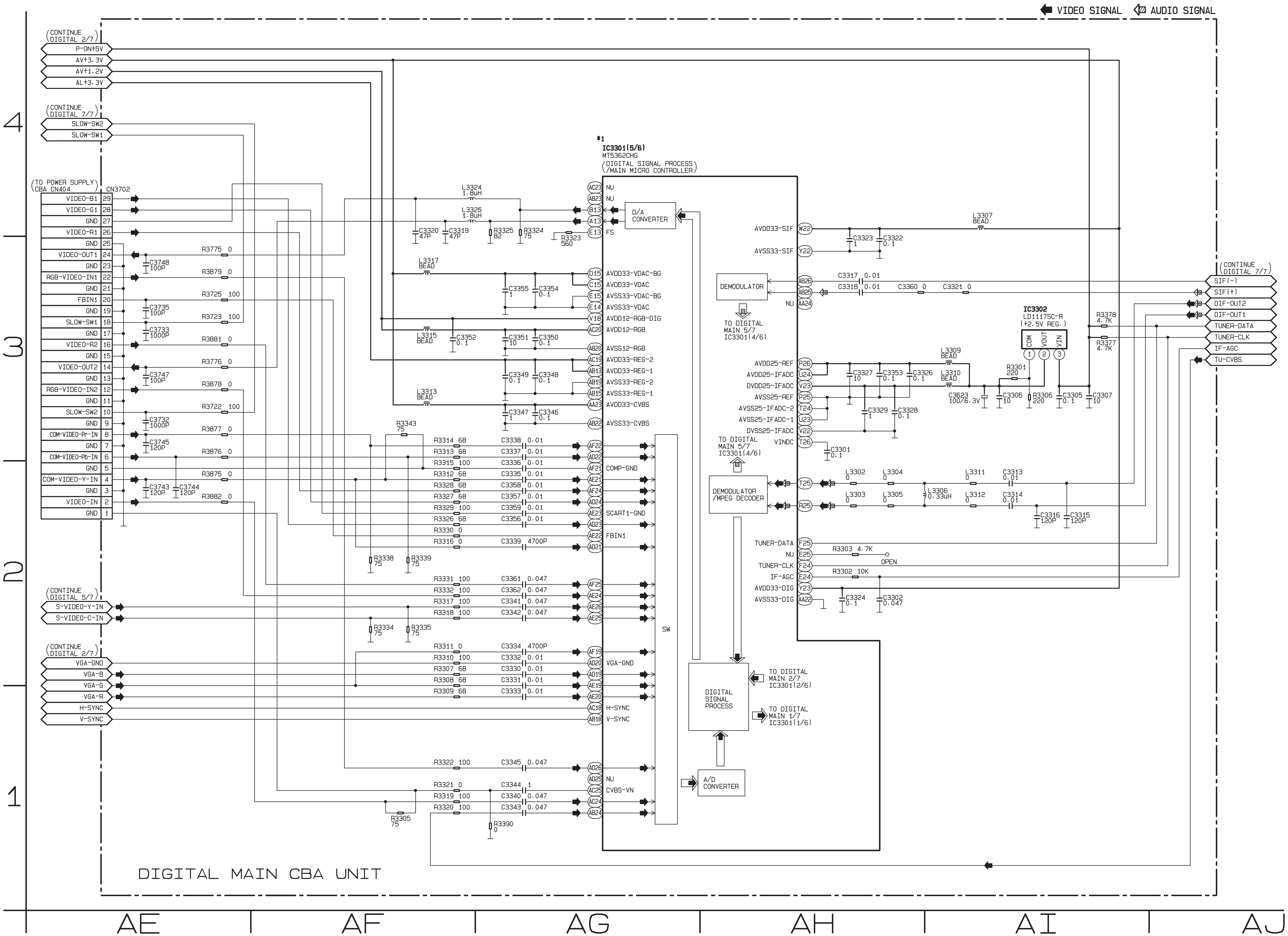
Digital Main 6/7 Schematic Diagram

∗1 **NOTE:**
The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into six and shown as IC3301 (1/6) ~ IC3301 (6/6) in this Digital Main Schematic Diagram Section.



Digital Main 7/7 Schematic Diagram

*1 **NOTE:**
The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into six and shown as IC3301 (1/6) ~ IC3301 (6/6) in this Digital Main Schematic Diagram Section.



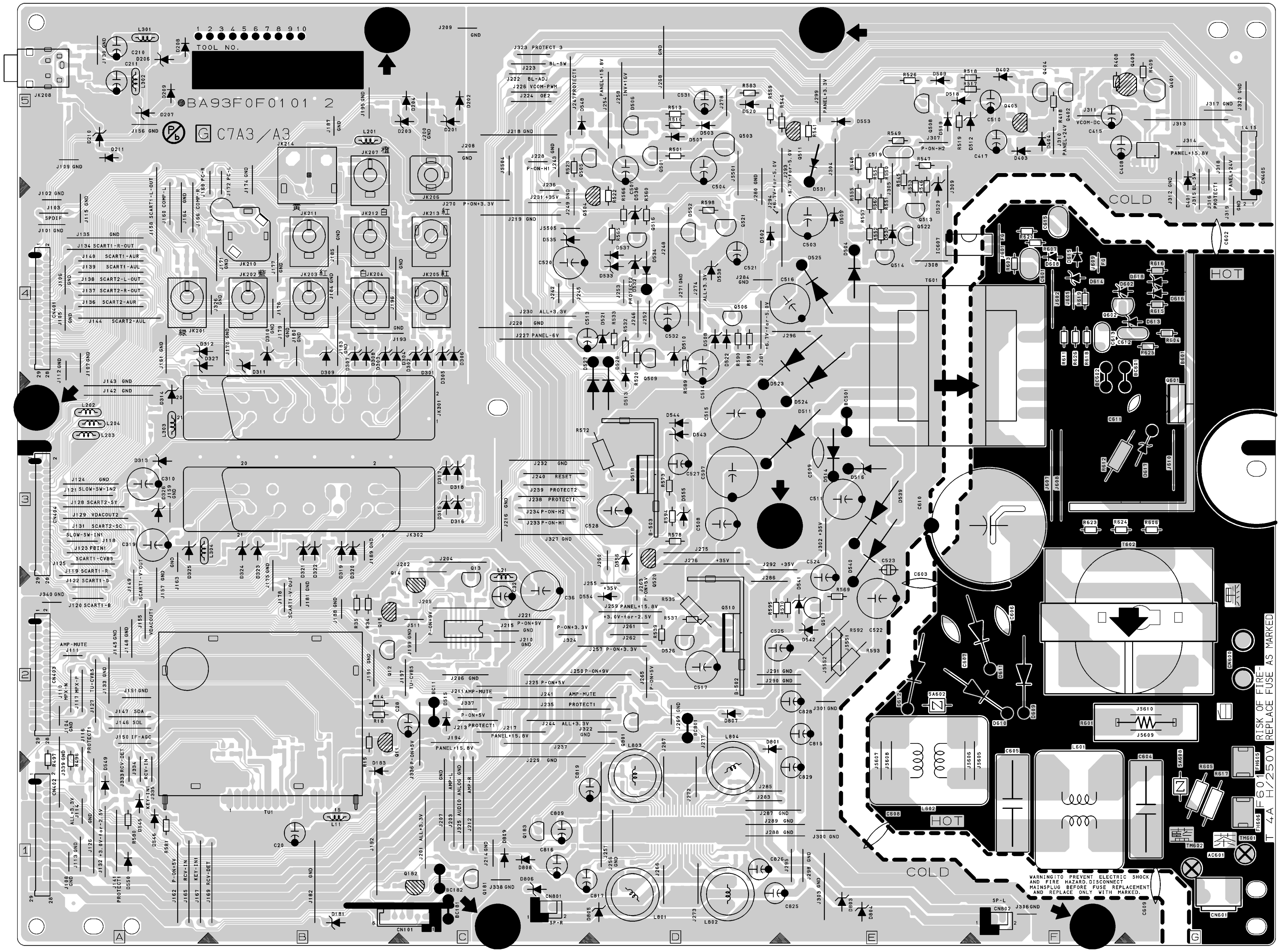
Power Supply CBA Top View

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.



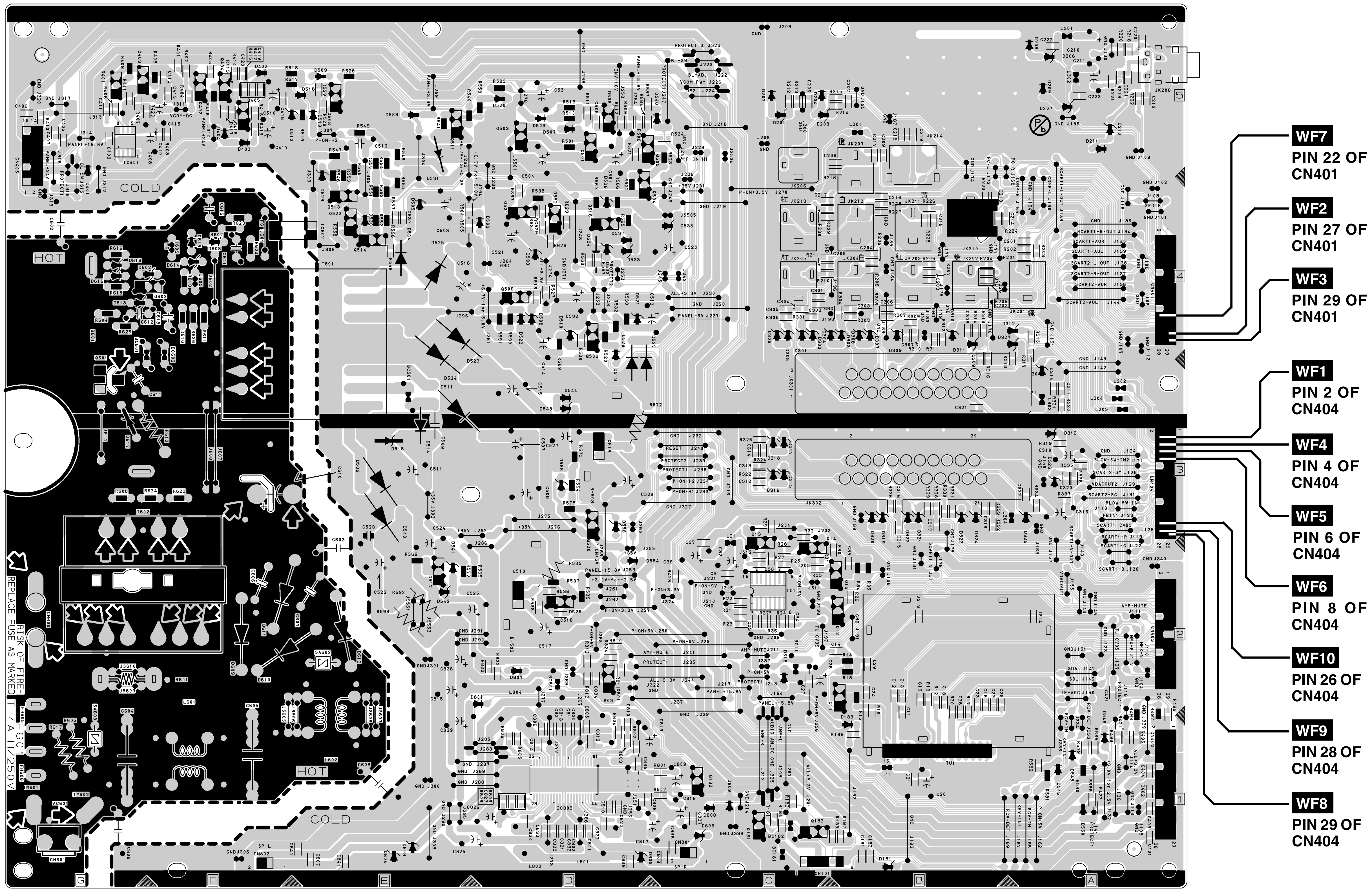
Power Supply CBA Bottom View

Because a hot chassis ground is present in the power supply circut, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

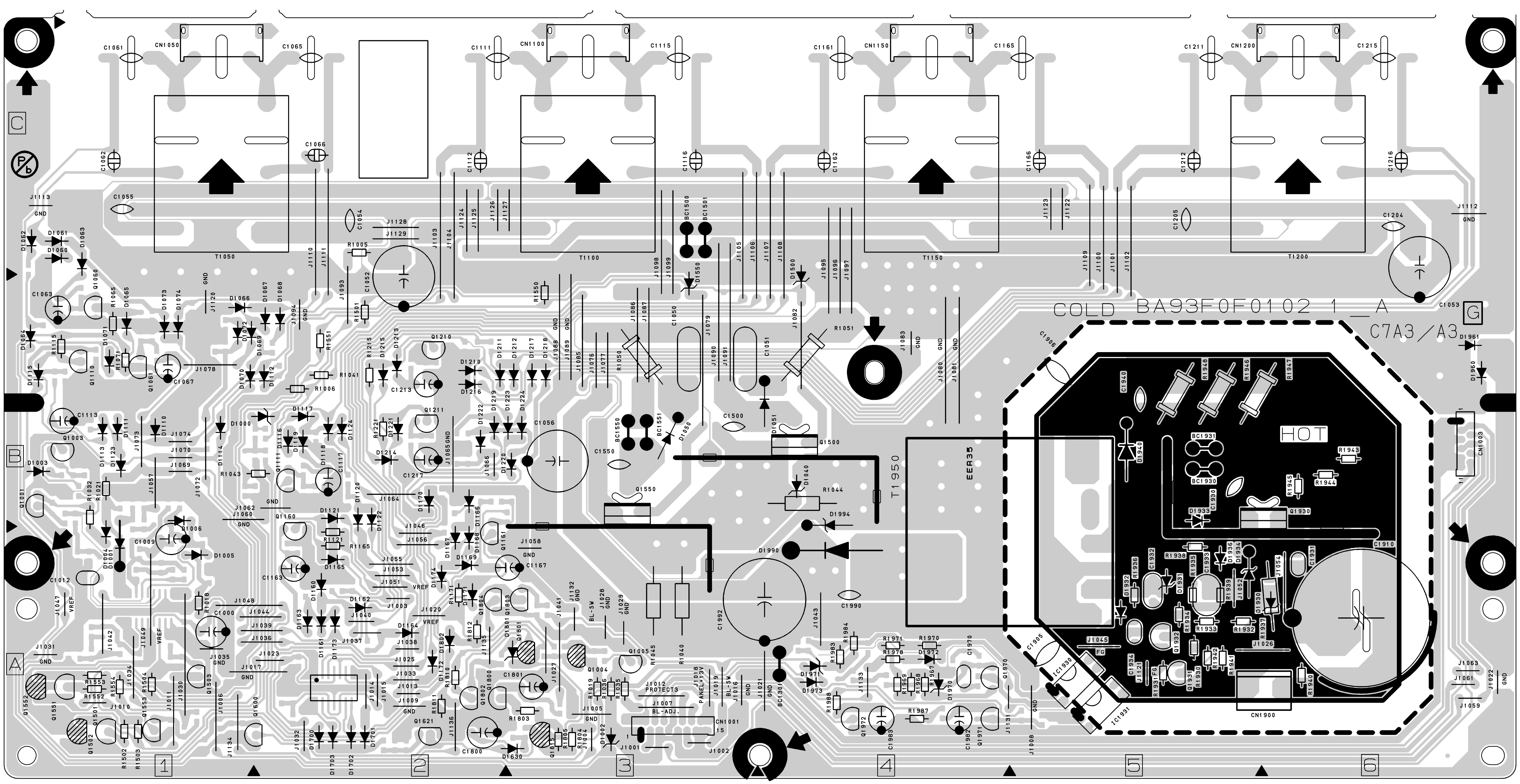
CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.



Inverter CBA Top View

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly,when troubleshooting this type power supply circuit, a variable isolation transformer is required.

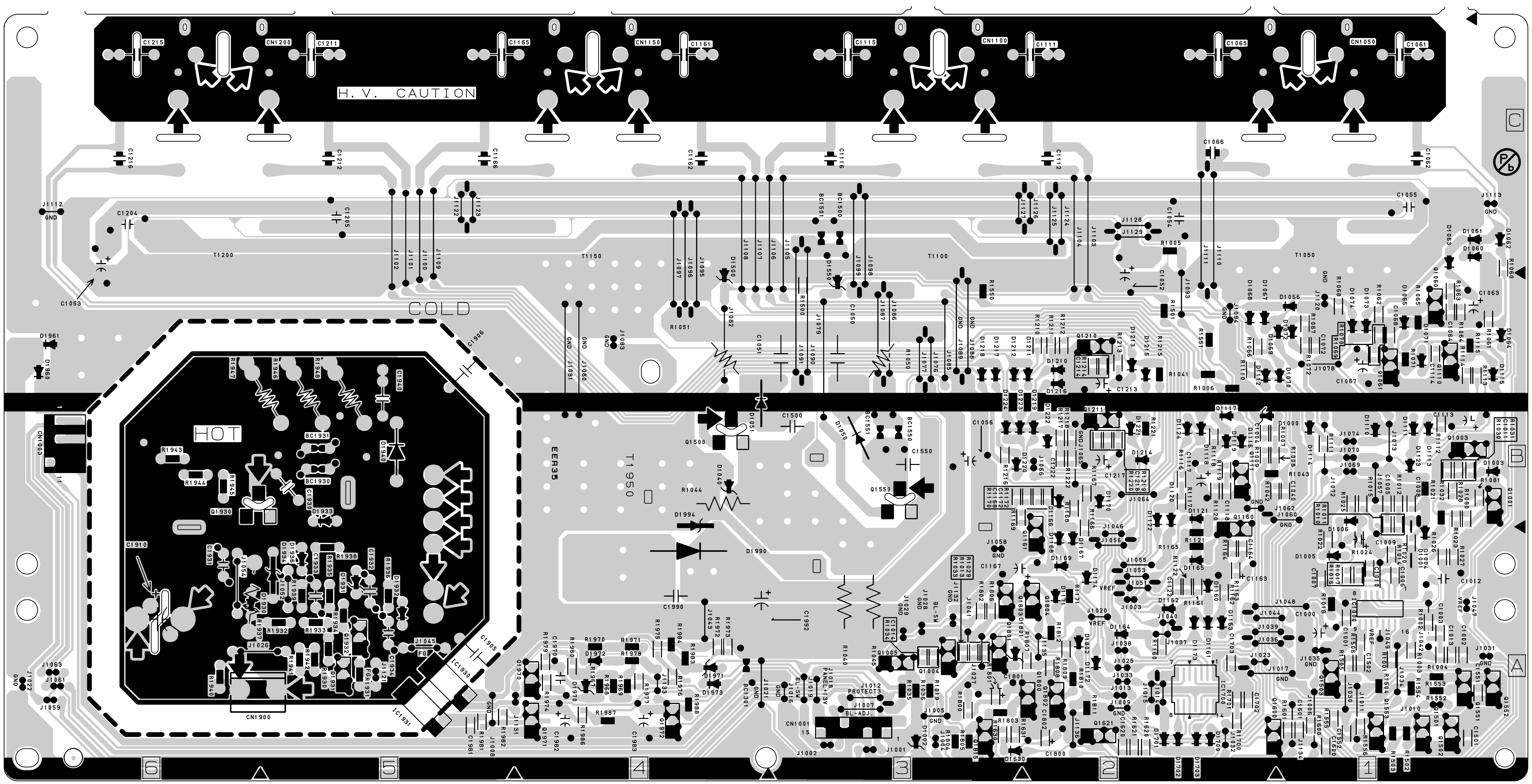
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



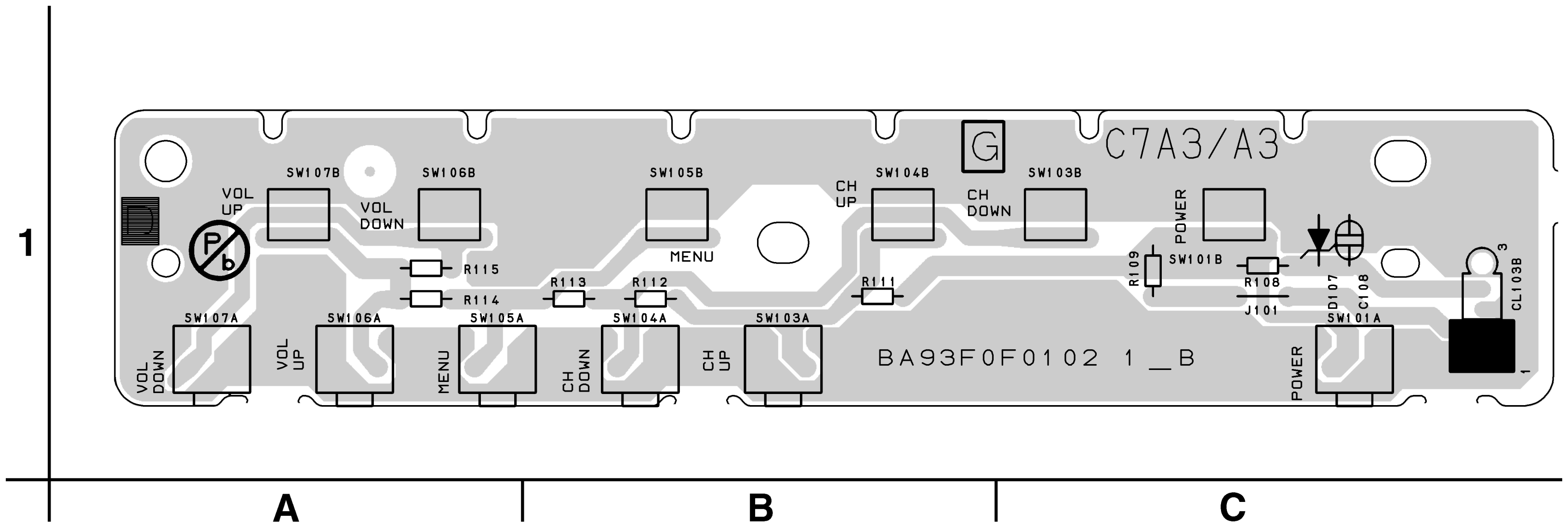
Inverter CBA Bottom View

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly,when troubleshooting this type power supply circuit, a variable isolation transformer is required.

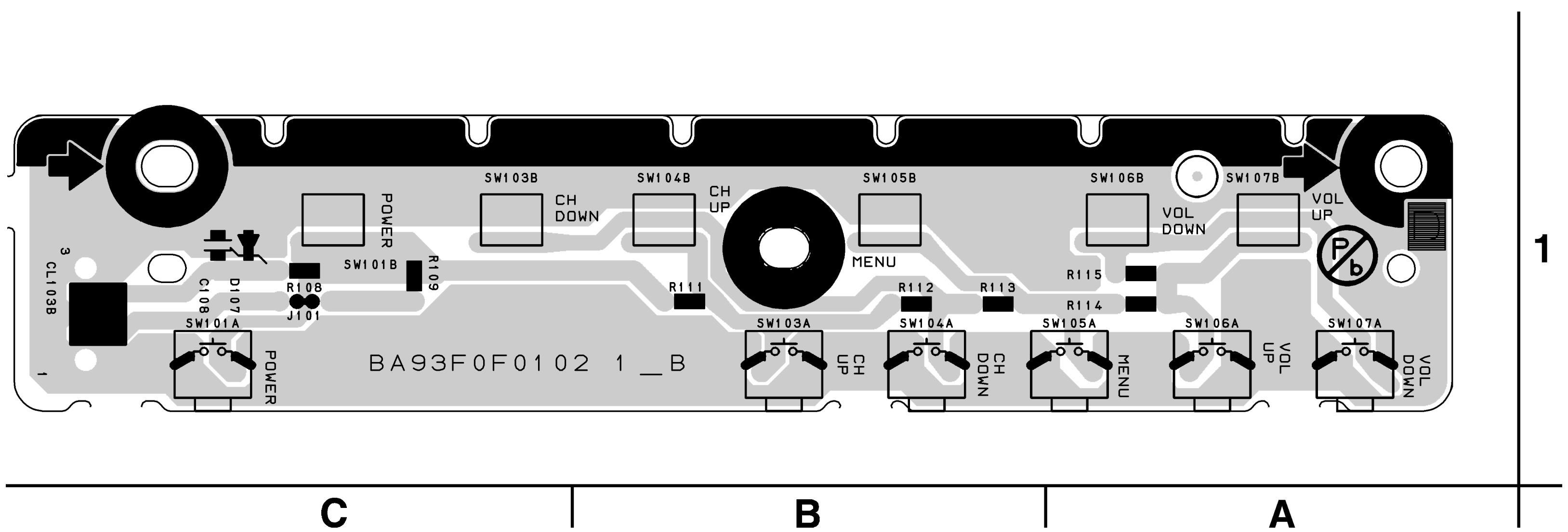
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



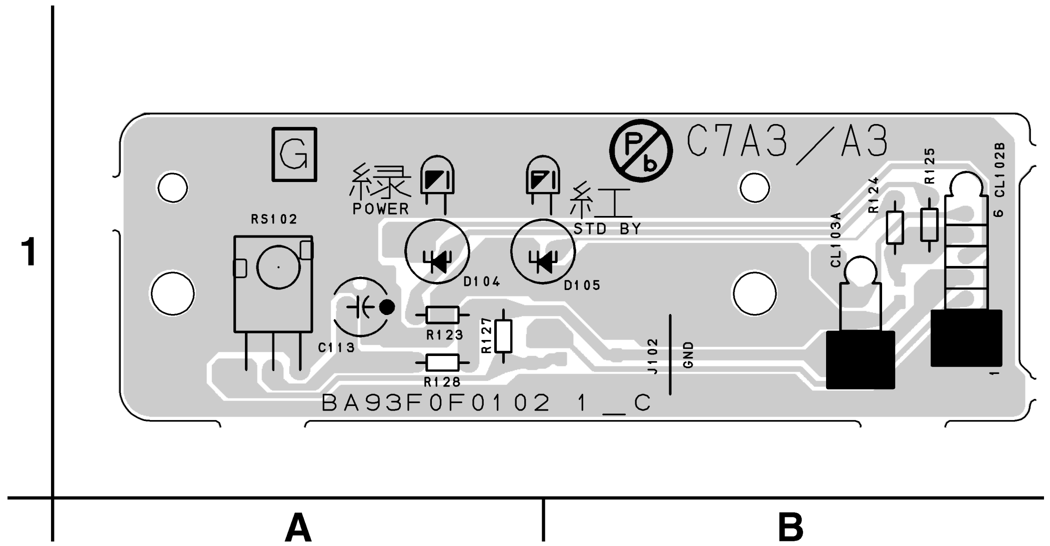
Function CBA Top View



Function CBA Bottom View

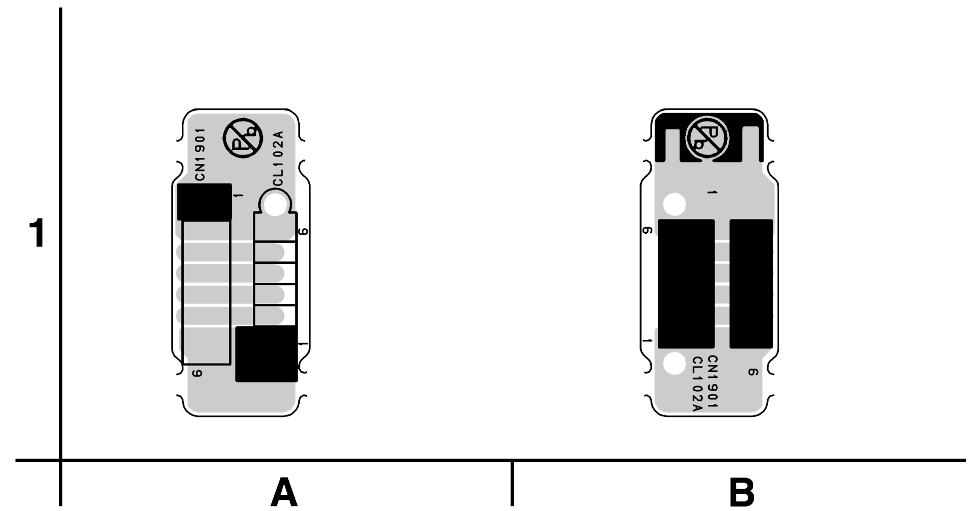


IR Sensor CBA Top View



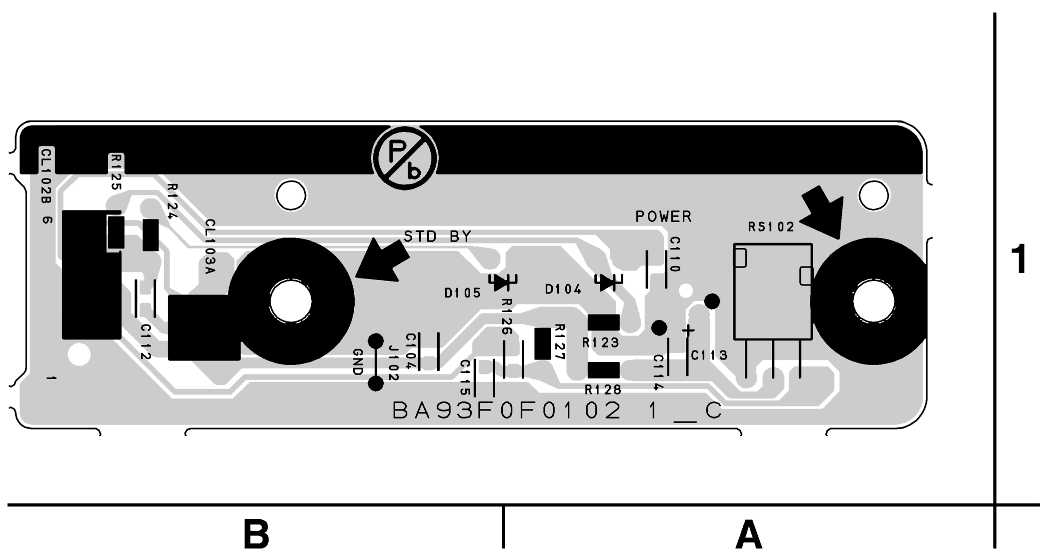
Junction CBA Top View

Junction CBA Bottom View



BA93F0F01021

IR Sensor CBA Bottom View



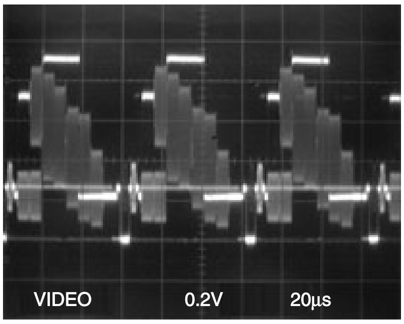
BA93F0F01021C

WAVEFORMS

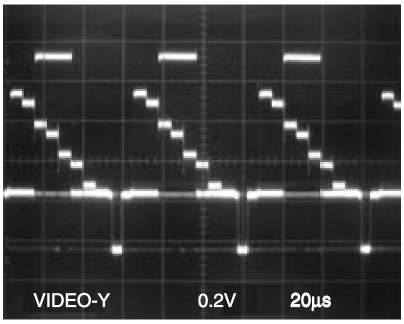
WF1 ~ WF6 = Waveforms to be observed at
Waveform check points.
(Shown in Schematic Diagram.)

Input: PAL Color Bar Signal (with 1kHz Audio Signal)

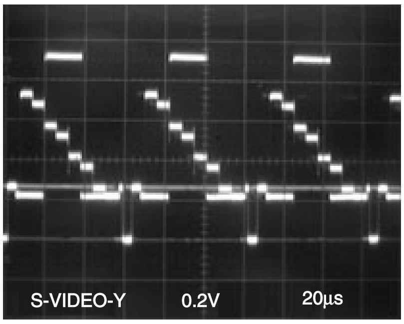
WF1 Pin 2 of CN404



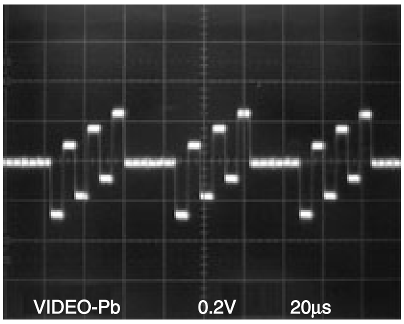
WF4 Pin 4 of CN404



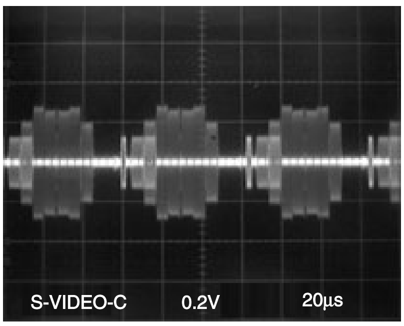
WF2 Pin 27 of CN401



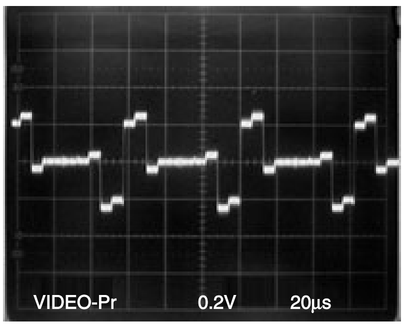
WF5 Pin 6 of CN404



WF3 Pin 29 of CN401



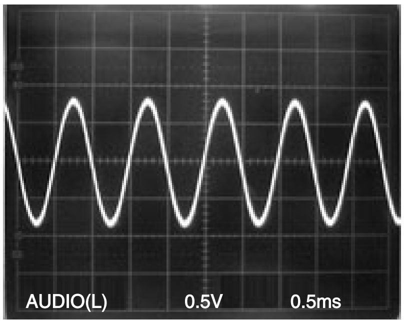
WF6 Pin 8 of CN404



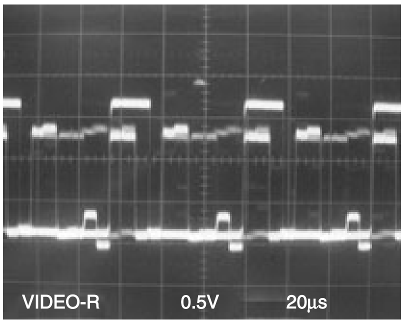
WF7 ~ WF10 = Waveforms to be observed at
Waveform check points.
(Shown in Schematic Diagram.)

Input: PAL Color Bar Signal (with 1kHz Audio Signal)

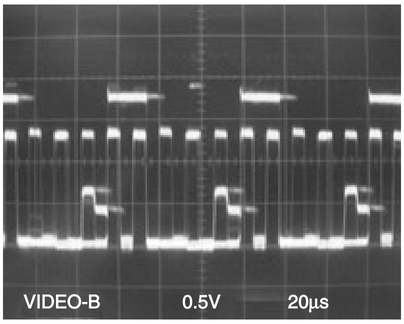
WF7 Pin 22 of CN401



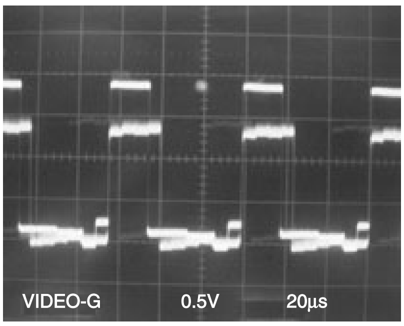
WF10 Pin 26 of CN404



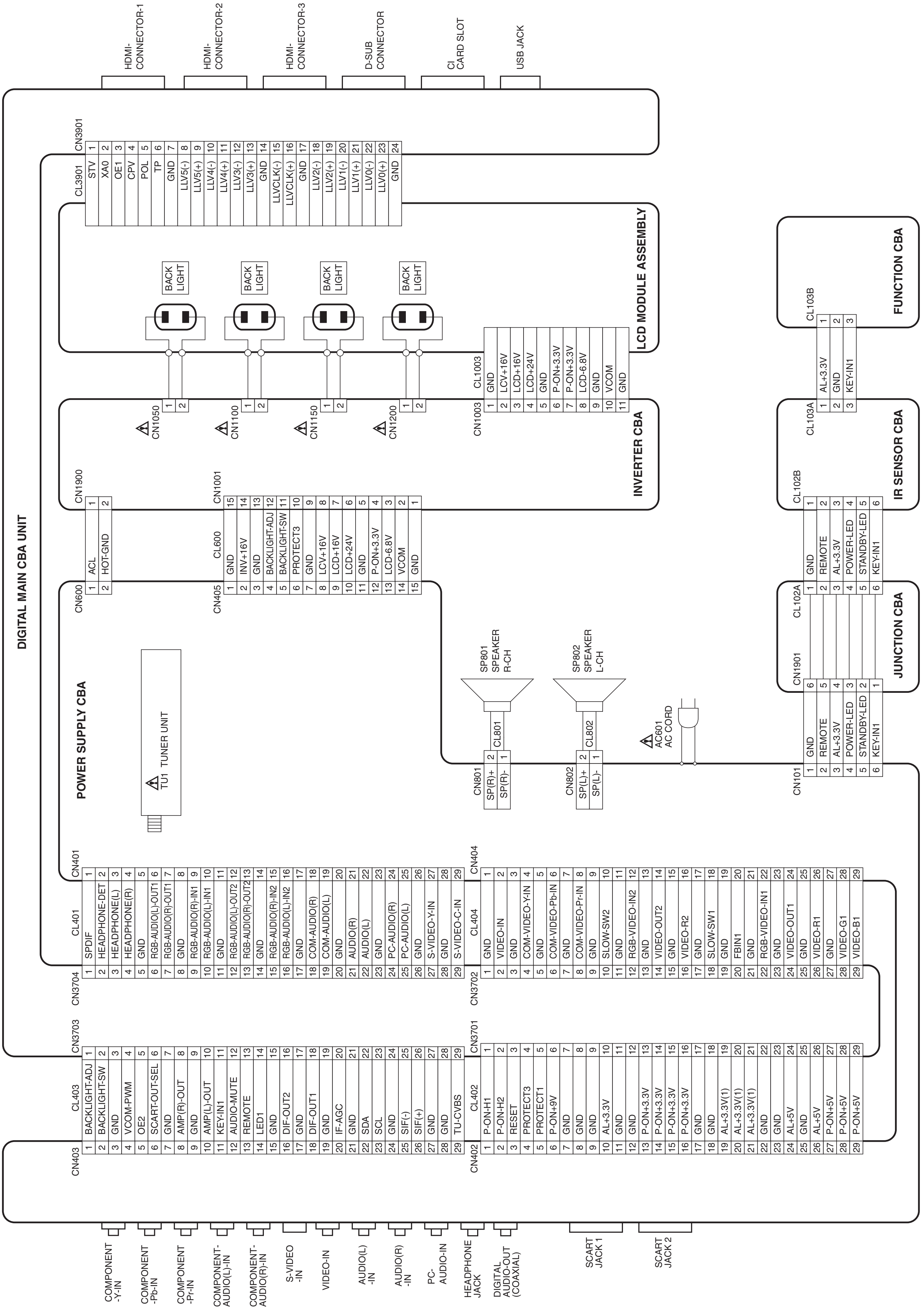
WF8 Pin 29 of CN404



WF9 Pin 28 of CN404

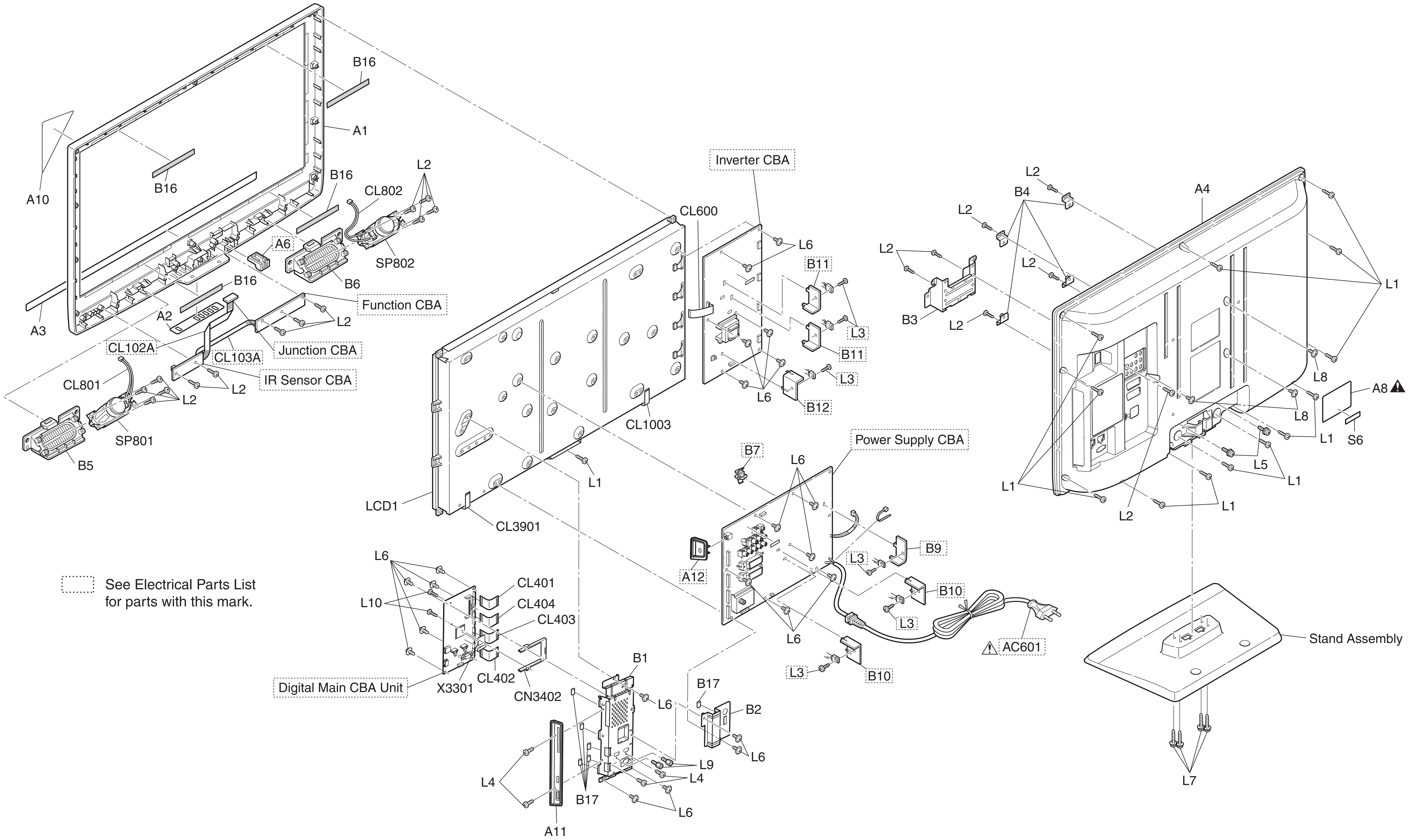


WIRING DIAGRAMS



EXPLODED VIEWS

Cabinet



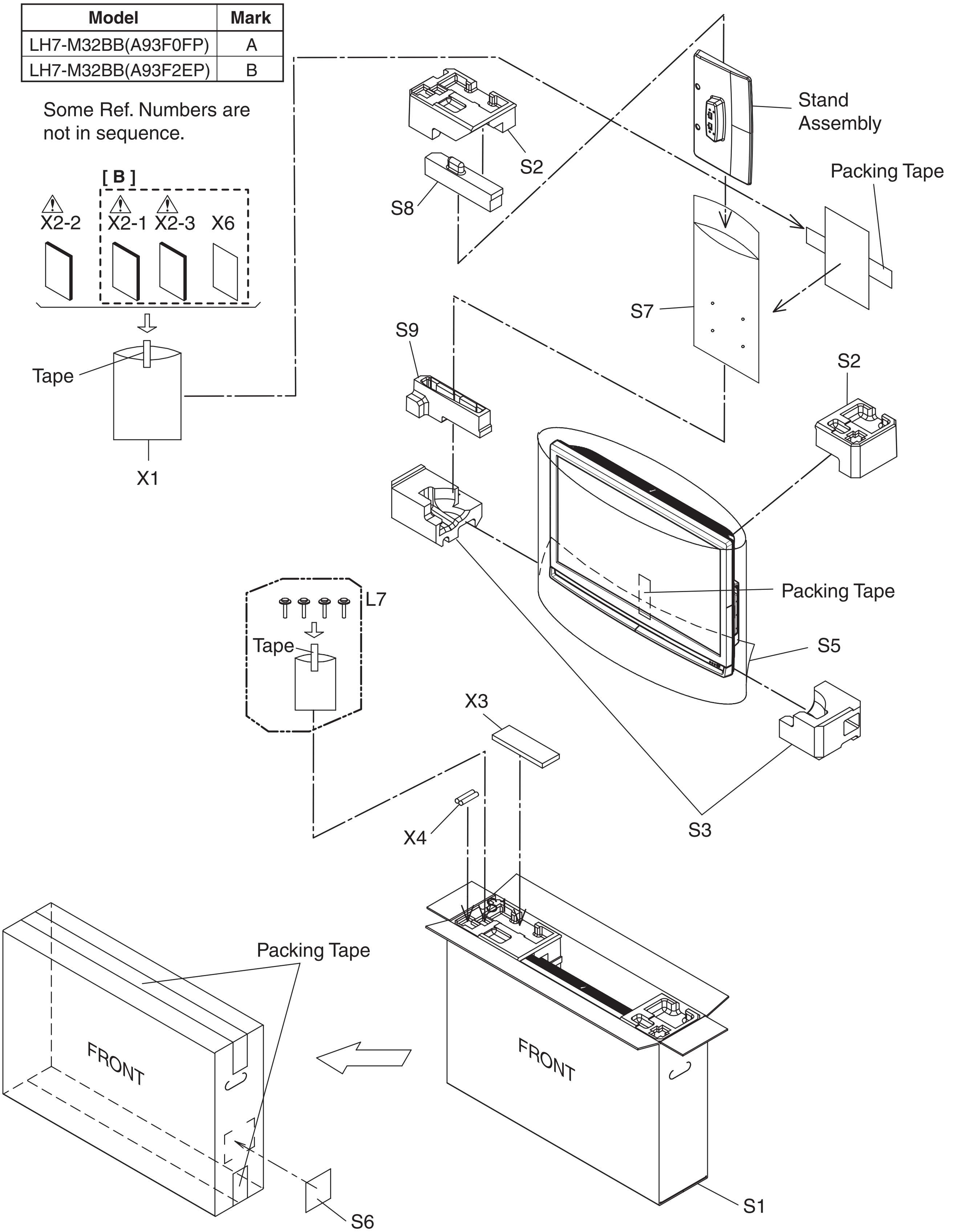
See Electrical Parts List for parts with this mark.

Packing

Comparison Chart of Models and Marks

Model	Mark
LH7-M32BB(A93F0FP)	A
LH7-M32BB(A93F2EP)	B

Some Ref. Numbers are not in sequence.



MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that are not assigned part numbers (---------) are not available.

Comparison Chart of Models and Marks

Model	Mark
LH7-M32BB(A93F0FP)	A
LH7-M32BB(A93F2EP)	B

Ref. No.	Mark	Description	Part No.
		STAND ASSEMBLY A93F0FZ	1ESA20435
A1		FRONT CABINET A93F0FP	1EM024031
A2		CONTROL PLATE A91F0UH	1EM325799
A3		DECORATION PLATE A93F0FP	1EM123553
A4		REAR CABINET A93F0FP	1EM023967
A10		POP LABEL A93F0FP	----------
A11		JACK HOLDER A93F0FP	1EM123494A
B1		SHILED BOX(32W-EU) A93F0FP	1EM123493
B2		TUNER SHIELD A93F0FP	1EM325981
B3		STAND HOLDER 32W A94F0UH	1EM222763
B4		WALL MOUNT BRACKET A84N0UH	1EM323797
B5		SPEAKER HOLDER (L) A94F0UH	1EM123233
B6		SPEAKER HOLDER (R) A94F0UH	1EM123234
B16		CLOTH(10X180XT0.5) L0336JG	0EM408827
B17		GASKET A8AF0UH	1EM425861
CL401		WIRE ASSEMBLY 29PIN FFC 29PIN 50MM	WX1A94F0-101
CL402		WIRE ASSEMBLY 29PIN FFC 29PIN 50MM	WX1A94F0-101
CL403		WIRE ASSEMBLY 29PIN FFC 29PIN 50MM	WX1A94F0-101
CL404		WIRE ASSEMBLY 29PIN FFC 29PIN 50MM	WX1A94F0-101
CL600		WIRE ASSEMBLY 15PIN FFC 15PIN 140MM	WX1A94F0-104
CL801		WIRE ASSEMBLY 2PIN 2PIN 310MM RED BLACK	WX1A94F0-202
CL802		WIRE ASSEMBLY 2PIN 2PIN 100MM RED BLACK	WX1A94F0-203
CL1003		WIRE ASSEMBLY 11PIN FFC 11PIN 110MM	WX1A94F0-105
CL3901		WIRA ASSEMBLY 24PIN FFC 24PIN 80MM	WX1A94F0-106
CN3402		CONNECTOR IC CARD OSU 68/R/30 5027 000 100	J614680UG001
L2		SCREW P-TIGHT 3X10 BIND HEAD+	GBHP3100
L4		SCREW S-TIGHT M3X8 BIND HEAD+	GBHS3080
L6		ASSEMBLED SCREW (D9 M3X6) A71F0UH	1EM424392A
L9		HEX SCREW #4-40 7MM	1EM422042
L10		DOUBLE SEMS SCREW M2X10+ M2X10	FPJ32100
LCD1		LCD MODULE CMO 6BIT A GRADE	UH32MEA
SP801		SPEAKER MAGNETIC S0412F08 or	DSD1609XQ001
		SPEAKER MAGNETIC YDP411-17FN	DS1610EFU001
SP802		SPEAKER MAGNETIC S0412F08 or	DSD1609XQ001
		SPEAKER MAGNETIC YDP411-17FN	DS1610EFU001
X3301		THERMOSTAR TMS-L-2(12*12HC)	XK10000X4003
		PACKING	
S5		SET BAG L4300UA	1EM321546
S7		STAND BAG A94F0UH	1EM428757

Ref. No.	Mark	Description	Part No.
		ACCESSORY	
X3		REMOTE CONTROL NF036RD 170/ ECPLC6.501/NF036	NF036RD

Ref. No.	Mark	Description	Part No.
A8⚠		RATING LABEL A93F0FP	----------
L1		SCREW P-TIGHT M4X14 BIND HEAD+BLK	GBHP4140
L2		SCREW P-TIGHT 3X10 BIND HEAD+	GBHP3100
L5		DOUBLE SEMS SCREW M4X10 + BLK	FPH34100
L6		ASSEMBLED SCREW (D9 M3X6) A71F0UH	1EM424392A
L8		SCREW S-TIGHT 3X8 WASHER HEAD+BLAC	GCHS3080
		PACKING	
S1		CARTON A93F0FP	1EM429058
S2		STYROFOAM TOP A93F0FP	1EM024165
S3		STYROFOAM BOTTOM A93F0FP	1EM024166
S6		SERIAL NO. LABEL L9750UA	----------
S8		STAND HOLD PAD TOP A93F0FP	1EM123613
S9		STAND HOLD PAD BOTTOM A93F0FP	1EM123614
		ACCESSORIES	
L7		STAND SCREW KIT A93F0FP	1ESA20855
X1		BAG POLYETHYLENE 235X365XT0.03	0EM408420A
X2-1⚠	B	OWNERS MANUAL(DE-7) A93F2EP	1EMN24880
X2-2⚠		OWNERS MANUAL(FR-7) A93F2EP	1EMN24879
X2-3⚠	B	OWNERS MANUAL(PL-6) A93F2EP	1EMN24881
X4		BATTERY R6DB/2PA	XB0M601MS003
X6	B	WARRANTY CARD A93F0FP	1EMN24799

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%	D.....±0.5%	F.....±1%
G.....±2%	J......±5%	K.....±10%
M.....±20%	N.....±30%	Z.....+80/-20%

Comparison Chart of Models and Marks

Model	Mark
LH7-M32BB(A93F0FP)	A
LH7-M32BB(A93F2EP)	B

DIGITAL MAIN CBA UNIT

Ref. No.	Mark	Description	Part No.
	A	DIGITAL MAIN CBA UNIT	1ESA19853
	B	DIGITAL MAIN CBA UNIT	1ESA20849

POWER SUPPLY CBA

Ref. No.	Description	Part No.
	POWER SUPPLY CBA Consists of the following:	1ESA20331
	CAPACITORS	
C11	CHIP CERAMIC CAP. CH J 15pF/50V	CHD1JJ3CH150
C12	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C13	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C16	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C18	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C19	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C20	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C21	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C22	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C24	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C27	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C28	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C31	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C33	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
C34	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
C35	CHIP CERAMIC CAP.(1608) B K 0.1µF/25V	CHD1EK30B104
C36	ELECTROLYTIC CAP. 220µF/50V M or	CE1JMZADL221
	ELECTROLYTIC CAP 220µF/50V M	CE1JMZPDL221
C37	CHIP CERAMIC CAP.(1608) B K 0.1µF/25V	CHD1EK30B104
C38	CHIP CERAMIC CAP.(1608) B K 1µF/10V	CHD1AK30B105
C181	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C182	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C204	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C205	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C206	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C207	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C208	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C209	CHIP CERAMIC CAP. F Z 1µF/10V	CHD1AZ30F105
C210	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C211	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C212	CHIP CERAMIC CAP. F Z 1µF/10V	CHD1AZ30F105
C213	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C214	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C215	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C216	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C217	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C220	CHIP CERAMIC CAP.(1608) B K 0.047µF/50V	CHD1JK30B473
C221	CHIP CERAMIC CAP.(1608) B K 0.047µF/50V	CHD1JK30B473
C301	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
C302	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C303	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C304	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
C305	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C306	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C307	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C308	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C309	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C310	ELECTROLYTIC CAP. 470µF/10V M	CE1AMASDL471
C311	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C312	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
C313	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C314	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C315	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
C316	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C317	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C318	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C319	ELECTROLYTIC CAP. 470µF/10V M	CE1AMASDL471
C320	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C401	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C402	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C403	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C404	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C405	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C406	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C407	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C408	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C409	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C410	CHIP CERAMIC CAP. (1608) B K 1µF/16V	CHD1CK30B105
C411	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C415	ELECTROLYTIC CAP. 22µF/50V M	CE1JMASDL220
C416	CHIP CERAMIC CAP.(1608) B K 0.1µF/25V	CHD1EK30B104
C417	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C420	CHIP CERAMIC CAP.(1608) B K 0.1µF/16V	CHD1CK30B104
C421	CHIP CERAMIC CAP.(1608) CH D 10pF/50V or	CHD1JD3CH100
	CHIP CERAMIC CAP.(1608) CH J 10pF/50V	CHD1JJ3CH100
C501	ELECTROLYTIC CAP. 100µF/25V M	CE1EMASDL101
C503	ELECTROLYTIC CAP. 470µF/25V M	CE1EMASDL471
C504	ELECTROLYTIC CAP. 100µF/25V M	CE1EMASDL101
C505	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C507	CAP ELE STD-85 4700µF 6.3V SL or	CE0KMZNDL472
	ELECTROLYTIC CAP. 4700µF/6.3V SM	CE0KMZPDL472
C508	ELECTROLYTIC CAP. 1000µF/6.3V M	CE0KMASDL102
C509	CERAMIC CAP. 1500pF/2KV or	CA3D152PAN04
	CERAMIC CAP RB 1500pF/2KV or	CA3D152TE006
	CERAMIC CAP. BL 1500pF/2KV	CA3D152XF003
C510	ELECTROLYTIC CAP. 22µF/50V M	CE1JMASDL220
C511	ELECTROLYTIC CAP. 220µF/50V M or	CE1JMZADL221

Ref. No.	Description	Part No.
	ELECTROLYTIC CAP 220µF/50V M	CE1JMZPDL221
C513	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C514	ELECTROLYTIC CAP. 220µF/16V M	CE1CMASDL221
C515	ELECTROLYTIC CAP 3300µF/10V or	CE1AMZNDL332
	ELECTROLYTIC CAP. 3300µF/10V M	CE1AMZPDL332
C516	ELECTROLYTIC CAP. 2200µF/10V M or	CE1AMZNDL222
	ELECTROLYTIC CAP. 2200µF/10V M	CE1AMZPDL222
C517	ELECTROLYTIC CAP. 1000µF/10V M	CE1AMASDL102
C518	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C519	POLYESTER FILM CAP. (PB FREE) 0.0022µF/ 100V J or	CA2A222DT018
	CAP POLYESTER FILM 0.0022µF/100V J	CA2A222SER02
C521	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C522	ELECTROLYTIC CAP. 1000µF/25V M or	CE1EMZPDL102
	ELECTROLYTIC CAP. 1000µF/25V M	CE1EMZNDL102
C524	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C525	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C527	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C528	ELECTROLYTIC CAP. 1000µF/10V M	CE1AMASDL102
C529	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C530	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C531	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C532	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C601	POLYESTER FILM CAP. (PB FREE) 0.047µF/ 100V J or	CA2A473DT018
	CAP POLYESTER FILM 0.047µF/100V J	CA2A473SER02
C604⚠	CAP METALIZED FILM 0.47µF/300V K 3.5MM or	CT2F474DC004
⚠	CAP METALIZED FILM 0.47µF/250V/K/MPX	CTA474EUR001
C605⚠	CAP METALIZED FILM 0.47µF/300V K 3.5MM or	CT2F474DC004
⚠	CAP METALIZED FILM 0.47µF/250V/K/MPX	CTA474EUR001
C606⚠	CERAMIC CAP. B K 0.01µF/500V	CCD2JKP0B103
C607⚠	CERAMIC CAP. B K 0.01µF/500V	CCD2JKP0B103
C608⚠	SAFTY CAP. 1000pF/250V KX or	CA2E102MR101
⚠	SAFTY CAP. 1000pF/250V or	CCN2EMA0E102
⚠	SAFETY CAP. 1000pF/250V	CCN2HMN0E102
C610	CAP ELECTROLYTIC 270µF/400V/M/30/30	CA2H271DYG10
C611	CERAMIC CAP. 470pF/2KV or	CA3D471PAN04
	CERAMIC CAP. RB 470pF/2KV or	CA3D471TE006
	CERAMIC CAP. BL 470pF/2KV	CA3D471XF003
C613	POLYESTER FILM CAP. (PB FREE) 0.033µF/ 100V J or	CA2A333DT018
	CAP POLYESTER FILM 0.033µF/100V J	CA2A333SER02
C615	POLYESTER FILM CAP. (PB FREE) 0.047µF/ 100V J or	CA2A473DT018
	CAP POLYESTER FILM 0.047µF/100V J	CA2A473SER02
C801	CHIP CERAMIC CAP.(1608) B K 0.047µF/50V	CHD1JK30B473
C802	CHIP CERAMIC CAP.(1608) B K 0.047µF/50V	CHD1JK30B473
C803	CHIP CERAMIC CAP.(1608) B K 0.22µF/16V	CHD1CK30B224
C805	CHIP CERAMIC CAP.(1608) B K 0.047µF/50V	CHD1JK30B473
C806	CHIP CERAMIC CAP.(1608) B K 0.047µF/50V	CHD1JK30B473
C807	CHIP CERAMIC CAP.(1608) B K 0.22µF/16V	CHD1CK30B224
C809	ELECTROLYTIC CAP. 2.2µF/50V M	CE1JMASDL2R2
C810	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C811	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C812	CHIP CERAMIC CAP.(1608) B K 1µF/25V	CHD1EK30B105
C813	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C814	CHIP CERAMIC CAP.(1608) B K 1µF/25V	CHD1EK30B105
C815	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C816	ELECTROLYTIC CAP. 2.2µF/50V M	CE1JMASDL2R2
C817	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C818	CHIP CERAMIC CAP.(1608) B K 1µF/25V	CHD1EK30B105
C819	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C820	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C821	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C822	CHIP CERAMIC CAP.(1608) B K 1µF/25V	CHD1EK30B105
C823	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C824	CHIP CERAMIC CAP.(1608) B K 1µF/25V	CHD1EK30B105

Ref. No.	Description	Part No.
C825	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C826	ELECTROLYTIC CAP. 3.3µF/50V M	CE1JMASDL3R3
C827	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C828	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C830	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C831	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C832	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C833	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C835	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C836	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C837	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C838	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C839	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C840	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C841	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
	CONNECTORS	
CN101	242 SERIES CONNECTOR 224202106W1	J322C06TG001
CN401	FFC CONNECTOR IMSA-9615S-29A-PP-A or	JC96J29ER007
	CONNECTOR PRINT MES 00 6232 029 006 800+	JC62G29UG026
CN402	FFC CONNECTOR IMSA-9615S-29A-PP-A or	JC96J29ER007
	CONNECTOR PRINT MES 00 6232 029 006 800+	JC62G29UG026
CN403	FFC CONNECTOR IMSA-9615S-29A-PP-A or	JC96J29ER007
	CONNECTOR PRINT MES 00 6232 029 006 800+	JC62G29UG026
CN404	FFC CONNECTOR IMSA-9615S-29A-PP-A or	JC96J29ER007
	CONNECTOR PRINT MES 00 6232 029 006 800+	JC62G29UG026
CN405	FFC CONNECTOR 15P IMSA-9615S-15A-PP-A or	JC96J15ER007
	CONNECTOR FPC 15P 00 6232 015 006 800+	JC62G15UG026
CN600	WIRE ASSEMBLY 2PIN 2PIN/115MM/AWG18/ BLA	WX1A93F0-205
CN801	PH CONNECTOR TOP 2P B2B-PH-K-S (LF)(SN) or	J3PHC02JG029
	CONNECTOR PRINT OSU TOP 2P 440054-2 or	J344C02AP001
	CONNECTOR PRINT OSU JS-1125-02KK	J3JT02CHY002
CN802	PH CONNECTOR TOP 2P B2B-PH-K-S (LF)(SN) or	J3PHC02JG029
	CONNECTOR PRINT OSU TOP 2P 440054-2 or	J344C02AP001
	CONNECTOR PRINT OSU JS-1125-02KK	J3JT02CHY002
	DIODES	
D183	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D301	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D302	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D303	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D304	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D305	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D306	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D307	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D308	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D309	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D310	DIODE ZENER 3V9BSB-T26	NDTB3R9BST26
D311	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D312	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D313	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D314	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D315	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D316	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D317	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D318	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D319	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D320	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D321	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D322	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D323	DIODE ZENER 3V9BSB-T26	NDTB3R9BST26
D324	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26

Ref. No.	Description	Part No.
D325	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D326	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D401	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D402	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D403	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D404	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D502	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D503	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D504	DIODE FR154 or	NDLZ000FR154
	DIODE FR154BD	NDL1000FR154
D505	DIODE ZENER 20BSB-T26	NDTB020BST26
D506	IC SHUNT REGULATOR KIA431-AT/P or	NSZBA0TJY036
	IC SHUNT REGULATOR SL431A-AT or	NSZBA0TAUK01
	IC SHUNT REGULATOR AS431BZTR-E1	NSZBA0TBCD01
D507	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D508	DIODE ZENER 8V2BSA-T26	NDTA8R2BST26
D509	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D511	SCHOTTKY BARRIER DIODE SB340	NDWZ000SB340
D512	DIODE ZENER 24BSB-T26	NDTB024BST26
D513	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D514	DIODE FR154 or	NDLZ000FR154
	DIODE FR154BD	NDL1000FR154
D515	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D516	DIODE ZENER 1ZB43BB	NDWZ0001ZB43
D518	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D519	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D520	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D521	DIODE ZENER 6V2BSA-T26	NDTA6R2BST26
D522	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D523	SCHOTTKY BARRIER DIODE SB340	NDWZ000SB340
D524	SCHOTTKY BARRIER DIODE SB340	NDWZ000SB340
D525	SCHOTTKY BARRIER DIODE SB270-B/P	NDWZ000SB270
D526	IC SHUNT REGULATOR KIA431-AT/P or	NSZBA0TJY036
	IC SHUNT REGULATOR SL431A-AT or	NSZBA0TAUK01
	IC SHUNT REGULATOR AS431BZTR-E1	NSZBA0TBCD01
D527	DIODE FR154 or	NDLZ000FR154
	DIODE FR154BD	NDL1000FR154
D528	DIODE FR154 or	NDLZ000FR154
	DIODE FR154BD	NDL1000FR154

Ref. No.	Description	Part No.
D529	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D530	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D531	SCHOTTKY BARRIER DIODE SB140	NDWZ000SB140
D532	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
D533	DIODE ZENER 6V2BSB-T26	NDTB6R2BST26
D534	DIODE FR104-B or	NDLZ000FR104
	DIODE FR104BB	NDL1000FR104
D536	DIODE ZENER 6V2BSC-T26	NDTC6R2BST26
D537	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D538	DIODE ZENER 6V8BSB-T26	NDTB6R8BST26
D539	SCHOTTKY BARRIER DIODE SB390	NDWZ000SB390
D541	DIODE ZENER 3V3BSB-T26	NDTB3R3BST26
D542	DIODE ZENER 6V2BSB-T26	NDTB6R2BST26
D543	DIODE ZENER 5V6BSC-T26	NDTC5R6BST26
D544	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
D545	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D546	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D548	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D549	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D552	IC SHUNT REGULATOR KIA431-AT/P or	NSZBA0TJY036
	IC SHUNT REGULATOR SL431A-AT or	NSZBA0TAUK01
	IC SHUNT REGULATOR AS431BZTR-E1	NSZBA0TBCD01
D553	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D554	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D555	DIODE ZENER 27BSB-T26	NDTB027BST26
D556	DIODE ZENER 20BSB-T26	NDTB020BST26
D608	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D609⚠	DIODE 1N5408-B/P or	NDLZ001N5408
⚠	DIODE RECTIFIEY 1N5408BH	NDL2001N5408
D610⚠	DIODE 1N5408-B/P or	NDLZ001N5408
⚠	DIODE RECTIFIEY 1N5408BH	NDL2001N5408
D611⚠	DIODE 1N5408-B/P or	NDLZ001N5408
⚠	DIODE RECTIFIEY 1N5408BH	NDL2001N5408
D612⚠	DIODE 1N5408-B/P or	NDLZ001N5408
⚠	DIODE RECTIFIEY 1N5408BH	NDL2001N5408
D613	DIODE ZENER 27BSB-T26	NDTB027BST26
D614	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D615	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D616	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D617	DIODE ZENER 1ZB18BB	NDWZ0001ZB18
D801	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F

Ref. No.	Description	Part No.
D803	DIODE ZENER 18BSB-T26	NDTB018BST26
D804	DIODE ZENER 18BSB-T26	NDTB018BST26
D805	DIODE ZENER 18BSB-T26	NDTB018BST26
D806	DIODE ZENER 18BSB-T26	NDTB018BST26
D807	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
	ICS	
IC1	IC SWITCH TC4053BF(EL N F) or	QSZBA0TTS163
	IC SWITCH 4053L-S16-R or	NSZBA0TUTC04
	IC ANALOG MULTIPLEXERS HCF4053M013TR or	NSZBA0SSS002
	IC ANALOG MULTIPLEXER CD4053BNSR	NSZBA0TTY093
IC401	IC TL3472CDR or	NSZBA0TTY115
	IC MC34072L-S08-R	QSZBA0TUTC01
IC607⚠	PHOTO COUPLER PS2561L1-1-A-V(L)	QPEL561L11AV
IC803	IC D-AMP BD5426EFS-E2	QSZBA0TRM137
	COILS	
L11	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
L21	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
L202	INDUCTOR 0.22μH-J-26T	LLAXJATTUR22
L203	INDUCTOR 0.22μH-J-26T	LLAXJATTUR22
L204	INDUCTOR 0.22μH-J-26T	LLAXJATTUR22
L301	INDUCTOR 4.7μH-J-26T	LLAXJATTU4R7
L302	INDUCTOR 4.7μH-J-26T	LLAXJATTU4R7
L303	INDUCTOR 12μH-J-26T	LLAXJATTU120
L304	INDUCTOR 12μH-J-26T	LLAXJATTU120
L601⚠	LINE FILTER MS036 or	LLBG00ZY2009
⚠	LINE FILTER JLB2808 or	LLBG00ZXB004
⚠	COIL BOBBIN LCL-2868/8.2MH	LLEB0EMEK001
L602⚠	LINE FILTER MS036 or	LLBG00ZY2009
⚠	LINE FILTER JLB2808 or	LLBG00ZXB004
⚠	COIL BOBBIN LCL-2868/8.2MH	LLEB0EMEK001
L801	COIL SEALED POWER INDUCTORS LHL10NB680K or	LLARKGQTU680
	COIL SEALED POWER INDUCTORS CWKBNP-680K	LLF6800KV002
L802	COIL SEALED POWER INDUCTORS LHL10NB680K or	LLARKGQTU680
	COIL SEALED POWER INDUCTORS CWKBNP-680K	LLF6800KV002
L803	COIL SEALED POWER INDUCTORS LHL10NB680K or	LLARKGQTU680
	COIL SEALED POWER INDUCTORS CWKBNP-680K	LLF6800KV002
L804	COIL SEALED POWER INDUCTORS LHL10NB680K or	LLARKGQTU680
	COIL SEALED POWER INDUCTORS CWKBNP-680K	LLF6800KV002
	TRANSISTORS	
Q11	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(TE2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(TE2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q12	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q15	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P

Ref. No.	Description	Part No.
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(TE2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(TE2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q181	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q182	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(TE2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(TE2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q183	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q401	TRANSISTOR 2SC2655-Y(TE6 F M)	QQSY2SC2655F
Q402	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q403	TRANSISTOR 2SA1020-Y(TE6 F M) or	QQSY2SA1020F
	TRANSISTOR KTA1281-Y-AT/P	NQVYKTA1281P
Q404	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q405	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(TE2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(TE2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q501	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F

Ref. No.	Description	Part No.
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q503	TRANSISTOR 2SD400(E) or	QQUE002SD400
	TRANSISTOR 2SD400(F) or	QQUF002SD400
	TRANSISTOR KTC3205-Y-AT/P or	NQSYKTC3205P
	TRANSISTOR KTC3205OAT or	NQS00KTC3205
	NPN TRANSISTOR STD1862O or	NQS00STD1862
	NPN TRANSISTOR STD1862	NQSY0STD1862
Q504	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(TE2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(TE2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q505	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q506	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q508	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q509	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q510	NPN TRANSISTOR POWER 2SC4881F HFE MAX320 or	QQWZ2SC4881F
	TRANSISTOR(PB FREE) KTC2026-Y/P or	NQEYKTC2026P
	NPN TRANSISTOR STC403	NQEZ00STC403
Q511	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(TE2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(TE2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q513	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P

Ref. No.	Description	Part No.
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q514	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q516	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q517	TRANSISTOR 2SC2120-Y(TE2 F T) or	QQSY2SC2120F
	TRANSISTOR 2SC2120-O(TE2 F T) or	QQS02SC2120F
	TRANSISTOR KTC3203-Y-AT/P or	NQSYKTC3203P
	TRANSISTOR KTC3203-O-AT/P or	NQS0KTC3203P
	NPN TRANSISTOR 2SC5344 Y or	NQSY02SC5344
	NPN TRANSISTOR 2SC5344O-AT	NQS002SC5344
Q518	NPN TRANSISTOR POWER 2SC4881F HFE MAX320 or	QQWZ2SC4881F
	TRANSISTOR(PB FREE) KTC2026-Y/P or	NQEYKTC2026P
	NPN TRANSISTOR STC403	NQEZ00STC403
Q520	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(TE2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(TE2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q521	TRANSISTOR 2SC2120-Y(TE2 F T) or	QQSY2SC2120F
	TRANSISTOR 2SC2120-O(TE2 F T) or	QQS02SC2120F
	TRANSISTOR KTC3203-Y-AT/P or	NQSYKTC3203P
	TRANSISTOR KTC3203-O-AT/P or	NQS0KTC3203P
	NPN TRANSISTOR 2SC5344 Y or	NQSY02SC5344
	NPN TRANSISTOR 2SC5344O-AT	NQS002SC5344
Q522	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q601⚠	FET 2SK3566(Q) or	QFWZ02SK3566
⚠	FET 2SK3566(Q M)	QFQZSK3566QM
Q602	TRANSISTOR 2SC2120-Y(TE2 F T) or	QQSY2SC2120F
	TRANSISTOR 2SC2120-O(TE2 F T) or	QQS02SC2120F
	TRANSISTOR KTC3203-Y-AT/P or	NQSYKTC3203P
	TRANSISTOR KTC3203-O-AT/P or	NQS0KTC3203P
	NPN TRANSISTOR 2SC5344 Y or	NQSY02SC5344
	NPN TRANSISTOR 2SC5344O-AT	NQS002SC5344

Ref. No.	Description	Part No.
	RESISTORS	
R12	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R13	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R14	RES CARBON FILM 1/4W J 1.2k Ω or	RCX4122FS002
	RES CARBON FILM T 1/4W J 1.2k Ω	RCX4122T1001
R15	RES CARBON FILM 1/4W J 100 Ω or	RCX4101FS002
	RES CARBON FILM T 1/4W J 100 Ω	RCX4101T1001
R17	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R18	RES CARBON FILM 1/4W J 1k Ω or	RCX4102FS002
	RES CARBON FILM T 1/4W J 1.0k Ω	RCX4102T1001
R25	CHIP RES. 1/10W J 4.7k Ω or	RRXAJR5Z0472
	RES CHIP 1608 1/10W J 4.7k Ω	RRXA472YF002
R26	CHIP RES. 1/10W J 4.7k Ω or	RRXAJR5Z0472
	RES CHIP 1608 1/10W J 4.7k Ω	RRXA472YF002
R30	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R31	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R33	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R35	RES CARBON FILM 1/4W J 470 Ω or	RCX4471FS002
	RES CARBON FILM T 1/4W J 470 Ω	RCX4471T1001
R37	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R181	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R182	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R183	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R184	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R186	CHIP RES. 1/10W J 33k Ω or	RRXAJR5Z0333
	RES CHIP 1608 1/10W J 33k Ω	RRXA333YF002
R201	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R203	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R204	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R206	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R208	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R209	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R210	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R211	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R212	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R213	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R214	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R215	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R216	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R217	CHIP RES. 1/10W J 300 Ω or	RRXAJR5Z0301
	RES CHIP 1608 1/10W J 300 Ω	RRXA301YF002
R218	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002

Ref. No.	Description	Part No.
R219	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R222	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R226	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R227	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R228	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R229	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R230	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R301	CHIP RES. 1/10W J 560 Ω or	RRXAJR5Z0561
	RES CHIP 1608 1/10W J 560 Ω	RRXA561YF002
R303	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R304	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R305	CHIP RES. 1/10W J 560 Ω or	RRXAJR5Z0561
	RES CHIP 1608 1/10W J 560 Ω	RRXA561YF002
R307	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R308	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R309	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R310	CHIP RES. 1/10W J 75 Ω or	RRXAJR5Z0750
	RES CHIP 1608 1/10W J 75 Ω	RRXA750YF002
R311	CHIP RES. 1/10W J 6.8k Ω or	RRXAJR5Z0682
	RES CHIP 1608 1/10W J 6.8k Ω	RRXA682YF002
R312	CHIP RES. 1/10W J 2.2k Ω or	RRXAJR5Z0222
	RES CHIP 1608 1/10W J 2.2k Ω	RRXA222YF002
R313	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R314	CHIP RES. 1/10W J 75 Ω or	RRXAJR5Z0750
	RES CHIP 1608 1/10W J 75 Ω	RRXA750YF002
R315	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R316	CHIP RES. 1/10W J 75 Ω or	RRXAJR5Z0750
	RES CHIP 1608 1/10W J 75 Ω	RRXA750YF002
R317	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R318	CHIP RES. 1/10W J 75 Ω or	RRXAJR5Z0750
	RES CHIP 1608 1/10W J 75 Ω	RRXA750YF002
R319	CHIP RES. 1/10W J 39 Ω or	RRXAJR5Z0390
	RES CHIP 1608 1/10W J 39 Ω	RRXA390YF002
R320	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R321	CHIP RES. 1/10W J 75 Ω or	RRXAJR5Z0750
	RES CHIP 1608 1/10W J 75 Ω	RRXA750YF002
R322	CHIP RES. 1/10W J 560 Ω or	RRXAJR5Z0561
	RES CHIP 1608 1/10W J 560 Ω	RRXA561YF002
R324	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R325	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R326	CHIP RES. 1/10W J 560 Ω or	RRXAJR5Z0561
	RES CHIP 1608 1/10W J 560 Ω	RRXA561YF002
R328	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R329	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R330	CHIP RES. 1/10W J 6.8k Ω or	RRXAJR5Z0682
	RES CHIP 1608 1/10W J 6.8k Ω	RRXA682YF002
R331	CHIP RES. 1/10W J 2.2k Ω or	RRXAJR5Z0222

Ref. No.	Description	Part No.
	RES CHIP 1608 1/10W J 2.2k Ω	RRXA222YF002
R332	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R333	CHIP RES. 1/10W J 75 Ω or	RRXAJR5Z0750
	RES CHIP 1608 1/10W J 75 Ω	RRXA750YF002
R334	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R335	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R336	CHIP RES. 1/10W J 75 Ω or	RRXAJR5Z0750
	RES CHIP 1608 1/10W J 75 Ω	RRXA750YF002
R401	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R402	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R403	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R404	CHIP RES. 1/10W J 1.5k Ω or	RRXAJR5Z0152
	RES CHIP 1608 1/10W J 1.5k Ω	RRXA152YF002
R405	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R406	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R407	CHIP RES. 1/10W J 1 Ω or	RRXAJR5Z01R0
	RES CHIP 1608 1/10W J 1 Ω	RRXA1R0YF002
R408	RES CARBON FILM 1/4W J 10 Ω or	RCX4100FS002
	RES CARBON FILM T 1/4W J 10 Ω	RCX4100T1001
R409	RES CARBON FILM 1/4W J 10 Ω or	RCX4100FS002
	RES CARBON FILM T 1/4W J 10 Ω	RCX4100T1001
R410	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R411	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R412	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R413	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R414	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R415	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R418	RES CARBON FILM 1/4W J 1k Ω or	RCX4102FS002
	RES CARBON FILM T 1/4W J 1.0k Ω	RCX4102T1001
R422	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R423	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R495	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R501	RES CARBON FILM 1/4W J 3.3 Ω or	RCX43R3FS002
	RES CARBON FILM T 1/4W J 3.3 Ω	RCX43R3T1001
R508	CHIP RES. 1/10W F 11k Ω or	RRXAFR5H1102
	CHIP RES. 1/10W F 11k Ω or	RRXAFR5Z1102
	RES CHIP 1608 1/10W F 11.0k Ω	RTW1102YF002
R509	CHIP RES. 1/10W F 750 Ω or	RRXAFR5H7500
	CHIP RES. RMC1/067500FTP or	RRXAFR5Z7500
	RES CHIP 1608 1/10W F 750 Ω	RTW7500YF002
R510	RES CARBON FILM 1/4W J 8.2k Ω or	RCX4822FS002
	RES CARBON FILM T 1/4W J 8.2k Ω	RCX4822T1001
R511	CHIP RES. 1/10W J 1.5k Ω or	RRXAJR5Z0152
	RES CHIP 1608 1/10W J 1.5k Ω	RRXA152YF002
R512	CHIP RES. 1/10W F 2.2k Ω or	RRXAFR5H2201
	CHIP RES.(1608) 1/10W F 2.2k Ω or	RRXAFR5Z2201
	RES CHIP 1608 1/10W F 2.20k Ω	RTW2201YF002
R513	RES CARBON FILM 1/4W J 8.2k Ω or	RCX4822FS002
	RES CARBON FILM T 1/4W J 8.2k Ω	RCX4822T1001
R515	CHIP RES. 1/10W F 3.3k Ω or	RRXAFR5H3301

Ref. No.	Description	Part No.
	CHIP RES.(1608) 1/10W F 3.3k Ω or	RRXAFR5Z3301
	RES CHIP 1608 1/10W F 3.30k Ω	RTW3301YF002
R517	RES CARBON FILM 1/4W J 1.8k Ω or	RCX4182FS002
	RES CARBON FILM T 1/4W J 1.8k Ω	RCX4182T1001
R518	RES CARBON FILM 1/4W J 1.8k Ω or	RCX4182FS002
	RES CARBON FILM T 1/4W J 1.8k Ω	RCX4182T1001
R519	RES CARBON FILM 1/4W J 100k Ω or	RCX4104FS002
	RES CARBON FILM T 1/4W J 100k Ω	RCX4104T1001
R520	RES CARBON FILM 1/4W J 47k Ω or	RCX4473FS002
	RES CARBON FILM T 1/4W J 47k Ω	RCX4473T1001
R521	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R522	RES CARBON FILM 1/4W J 3.3k Ω or	RCX4332FS002
	RES CARBON FILM T 1/4W J 3.3k Ω	RCX4332T1001
R523	RES CARBON FILM 1/4W J 27k Ω or	RCX4273FS002
	RES CARBON FILM T 1/4W J 27k Ω	RCX4273T1001
R524	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R526	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
R527	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R529	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R530	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R532	RES CARBON FILM 1/4W J 180 Ω or	RCX4181FS002
	RES CARBON FILM T 1/4W J 180 Ω	RCX4181T1001
R535	METAL OXIDE FILM RES. 1W J 0.27 Ω	RN01R27ZU001
R536	CHIP RES. 1/10W F 10k Ω or	RRXAFR5H1002
	CHIP RES. 1/10W F 10k Ω or	RRXAFR5Z1002
	RES CHIP 1608 1/10W F 10.0k Ω	RTW1002YF002
R537	RES CARBON FILM 1/4W J 10 Ω or	RCX4100FS002
	RES CARBON FILM T 1/4W J 10 Ω	RCX4100T1001
R538	CHIP RES. 1/10W F 3.3k Ω or	RRXAFR5H3301
	CHIP RES.(1608) 1/10W F 3.3k Ω or	RRXAFR5Z3301
	RES CHIP 1608 1/10W F 3.30k Ω	RTW3301YF002
R540	RES CARBON FILM 1/4W J 270 Ω or	RCX4271FS002
	RES CARBON FILM T 1/4W J 270 Ω	RCX4271T1001
R541	RES CARBON FILM 1/4W J 22k Ω or	RCX4223FS002
	RES CARBON FILM T 1/4W J 22k Ω	RCX4223T1001
R545	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
R546	RES CARBON FILM 1/4W J 6.8k Ω or	RCX4682FS002
	RES CARBON FILM T 1/4W J 6.8k Ω	RCX4682T1001
R547	RES CARBON FILM 1/4W J 270 Ω or	RCX4271FS002
	RES CARBON FILM T 1/4W J 270 Ω	RCX4271T1001
R548	RES CARBON FILM 1/4W J 1.2k Ω or	RCX4122FS002
	RES CARBON FILM T 1/4W J 1.2k Ω	RCX4122T1001
R549	RES CARBON FILM 1/4W J 2.7k Ω or	RCX4272FS002
	RES CARBON FILM T 1/4W J 2.7k Ω	RCX4272T1001
R550	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
R551	RES CARBON FILM 1/4W J 12k Ω or	RCX4123FS002
	RES CARBON FILM T 1/4W J 12k Ω	RCX4123T1001
R552	RES CARBON FILM 1/4W J 12k Ω or	RCX4123FS002
	RES CARBON FILM T 1/4W J 12k Ω	RCX4123T1001
R554	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
R555	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
R556	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R557	RES CARBON FILM 1/4W J 10k Ω or	RCX4103FS002
	RES CARBON FILM T 1/4W J 10k Ω	RCX4103T1001
R558	CHIP RES. 1/10W J 56k Ω or	RRXAJR5Z0563
	RES CHIP 1608 1/10W J 56k Ω	RRXA563YF002

Ref. No.	Description	Part No.
R559	RES CARBON FILM 1/4W J 3.3k Ω or	RCX4332FS002
	RES CARBON FILM T 1/4W J 3.3k Ω	RCX4332T1001
R560	RES CARBON FILM 1/4W J 68 Ω or	RCX4680FS002
	RES CARBON FILM T 1/4W J 68 Ω	RCX4680T1001
R562	RES CARBON FILM 1/4W J 10k Ω or	RCX4103FS002
	RES CARBON FILM T 1/4W J 10k Ω	RCX4103T1001
R565	RES CARBON FILM 1/4W J 1.8k Ω or	RCX4182FS002
	RES CARBON FILM T 1/4W J 1.8k Ω	RCX4182T1001
R566	RES CARBON FILM 1/4W J 1.8k Ω or	RCX4182FS002
	RES CARBON FILM T 1/4W J 1.8k Ω	RCX4182T1001
R567	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R568	CHIP RES. 1/10W J 6.8k Ω or	RRXAJR5Z0682
	RES CHIP 1608 1/10W J 6.8k Ω	RRXA682YF002
R569	RES CARBON FILM 1/4W J 47 Ω or	RCX4470FS002
	RES CARBON FILM T 1/4W J 47 Ω	RCX4470T1001
R570	RES CARBON FILM 1/4W J 1.8k Ω or	RCX4182FS002
	RES CARBON FILM T 1/4W J 1.8k Ω	RCX4182T1001
R572	METAL OXIDE FILM RES. 1W J 1 Ω	RN011R0ZU001
R573	RES CARBON FILM 1/4W J 2.2k Ω or	RCX4222FS002
	RES CARBON FILM T 1/4W J 2.2k Ω	RCX4222T1001
R578	RES CARBON FILM 1/4W J 3.3k Ω or	RCX4332FS002
	RES CARBON FILM T 1/4W J 3.3k Ω	RCX4332T1001
R580	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
R581	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
R583	RES CARBON FILM 1/4W J 100k Ω or	RCX4104FS002
	RES CARBON FILM T 1/4W J 100k Ω	RCX4104T1001
R589	RES CARBON FILM 1/4W J 180 Ω or	RCX4181FS002
	RES CARBON FILM T 1/4W J 180 Ω	RCX4181T1001
R590	RES CARBON FILM 1/4W J 47 Ω or	RCX4470FS002
	RES CARBON FILM T 1/4W J 47 Ω	RCX4470T1001
R591	RES CARBON FILM 1/4W J 47 Ω or	RCX4470FS002
	RES CARBON FILM T 1/4W J 47 Ω	RCX4470T1001
R594	RES CARBON FILM 1/4W J 2.2k Ω or	RCX4222FS002
	RES CARBON FILM T 1/4W J 2.2k Ω	RCX4222T1001
R595	RES CARBON FILM 1/4W J 2.2k Ω or	RCX4222FS002
	RES CARBON FILM T 1/4W J 2.2k Ω	RCX4222T1001
R596	CHIP RES. 1/10W J 12k Ω or	RRXAJR5Z0123
	RES CHIP 1608 1/10W J 12k Ω	RRXA123YF002
R597	CHIP RES. 1/10W J 12k Ω or	RRXAJR5Z0123
	RES CHIP 1608 1/10W J 12k Ω	RRXA123YF002
R598	RES CARBON FILM 1/4W J 470 Ω or	RCX4471FS002
	RES CARBON FILM T 1/4W J 470 Ω	RCX4471T1001
R603	RES CARBON FILM 1/4W J 2.2k Ω or	RCX4222FS002
	RES CARBON FILM T 1/4W J 2.2k Ω	RCX4222T1001
R604	RES CARBON FILM 1/4W J 820k Ω or	RCX4824FS002
	RES CARBON FILM T 1/4W J 820k Ω	RCX4824T1001
R605⚠	GLASS GLAZE RES. 1/2W J 1M Ω	RXX2JZLZ0105
R606	RES CARBON FILM 1/4W J 820k Ω or	RCX4824FS002
	RES CARBON FILM T 1/4W J 820k Ω	RCX4824T1001
R607	RES CARBON FILM 1/4W J 270 Ω or	RCX4271FS002
	RES CARBON FILM T 1/4W J 270 Ω	RCX4271T1001
R611	RES CARBON FILM 1/4W J 120 Ω or	RCX4121FS002
	RES CARBON FILM T 1/4W J 120 Ω	RCX4121T1001
R612	METAL OXIDE FILM RES. 2W J 1 Ω	RN021R0ZU001
R615	RES CARBON FILM 1/4W J 150 Ω or	RCX4151FS002
	RES CARBON FILM T 1/4W J 150 Ω	RCX4151T1001
R617⚠	GLASS GLAZE RES. 1/2W J 1M Ω	RXX2JZLZ0105
R618	RES CARBON FILM 1/4W J 390 Ω or	RCX4391FS002
	RES CARBON FILM T 1/4W J 390 Ω	RCX4391T1001
R619	RES CARBON FILM 1/4W J 1.2k Ω or	RCX4122FS002
	RES CARBON FILM T 1/4W J 1.2k Ω	RCX4122T1001
R620	RES CARBON FILM T 1/4W J 330 Ω or	RCX4331T1001
	RES CARBON FILM 1/4W J 330 Ω	RCX4331FS002
R623	RES CARBON FILM 1/4W J 820k Ω or	RCX4824FS002

Ref. No.	Description	Part No.
	RES CARBON FILM T 1/4W J 820k Ω	RCX4824T1001
R624	RES CARBON FILM 1/4W J 820k Ω or	RCX4824FS002
	RES CARBON FILM T 1/4W J 820k Ω	RCX4824T1001
R625	RES CARBON FILM 1/4W J 390k Ω or	RCX4394FS002
	RES CARBON FILM T 1/4W J 390k Ω	RCX4394T1001
R626	RES CARBON FILM 1/4W J 120 Ω or	RCX4121FS002
	RES CARBON FILM T 1/4W J 120 Ω	RCX4121T1001
R628	CHIP RES. 1/10W F 3.3k Ω or	RRXAFR5H3301
	CHIP RES.(1608) 1/10W F 3.3k Ω or	RRXAFR5Z3301
	RES CHIP 1608 1/10W F 3.30k Ω	RTW3301YF002
R629	CHIP RES. 1/10W F 10k Ω or	RRXAFR5H1002
	CHIP RES. 1/10W F 10k Ω or	RRXAFR5Z1002
	RES CHIP 1608 1/10W F 10.0k Ω	RTW1002YF002
R630	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R801	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R802	CHIP RES. 1/10W F 27k Ω or	RRXAFR5H2702
	CHIP RES.(1608) 1/10W F 27k Ω or	RRXAFR5Z2702
	RES CHIP 1608 1/10W F 27.0k Ω	RTW2702YF002
R803	CHIP RES. 1/10W F 10k Ω or	RRXAFR5H1002
	CHIP RES. 1/10W F 10k Ω or	RRXAFR5Z1002
	RES CHIP 1608 1/10W F 10.0k Ω	RTW1002YF002
R804	CHIP RES. 1/10W F 10k Ω or	RRXAFR5H1002
	CHIP RES. 1/10W F 10k Ω or	RRXAFR5Z1002
	RES CHIP 1608 1/10W F 10.0k Ω	RTW1002YF002
R806	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R807	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R810	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R824	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
	MISCELLANEOUS	
A6	AC CORD HOLDER A94F0UH	1EM325557
A12	JACK HOLDER(HP) A93F0FP	1EM325982
AC601⚠	AC CORD CEE 1800MM BLACK or	WAE0182LW003
⚠	AC CORD W/O A GND WIRE CEE/1800MM/ NO/BLACK or	WAE0182K5001
⚠	AC CORD W/O A GND WIRE CEE/1800MM/ NO/BLACK	WAE182ZHN001
B7	PCB STUD A93F0FP	1EM326099
B9	HEAT SINK PMR ASSEMBLY A8CN0FP	1EM425837A
B10	MODULE HEAT SINK PMC P7150UT	1EM423968
BC11	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC181	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
BC182	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
BC501	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC601	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC602	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC801	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
F601⚠	FUSE 4A/250V(PB FREE) 0215004.MXP	PBGZ20BAG021
FH605	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
FH606	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
JK201	JACK RCA PCB S GREEN 01/RCA-101H(GN) or	JXRJ010YUQ03
	JACK RCA PCB S(GREEN) 01 MTJ-032-04B-73 FE	JXRJ010LY030
JK202	JACK RCA PCB S BLUE 01/RCA-101H(BL) or	JXRJ010YUQ04
	JACK RCA PCB S(BLUE) 01 MTJ-032-04B-74 FE	JXRJ010LY033
JK203	JACK RCA PCB S RED 01/RCA-101H(RD) or	JXRJ010YUQ01
	JACK RCA PCB S(RED) 01 MTJ-032-04B-75 FE	JXRJ010LY028
JK204	JACK RCA PCB S WHITE 01/RCA-101H(WH) or	JXRJ010YUQ02
	JACK RCA PCB S (WHITE) 01 MTJ-032-04B-41 FE	JXRJ010LY031

Ref. No.	Description	Part No.
JK205	JACK SW RCA PCB S RED RCA-102H(RD) or	JYRJ010YUQ03
	JACK SW RCA PCB S(RED) 01 MTJ-032-04A-75 FE	JYRJ010LY031
JK206	JACK HPEP SML PCB S PJ-358H or	JXSJ020YUQ01
	JACK HPEP SML PCB S 02 MSJ-035-29D (ABS)	JXSJ020LY001
JK207	JACK RCA PCB S ORANGE 01/RCA-101H(OR) or	JXRJ010YUQ06
	JACK RCA PCB S(ORANGE) 01 MTJ-032-04B-76 FE	JXRJ010LY029
JK208	JACK SW HPEP SML PCB L PJ-350 or	JYSL010YUQ03
	JACK SW HPEP SML PCB L MSJ-2000 AG(B110)	JYSL010LY005
JK210	JACK SW DIN PCB S 04/DIN-417HA-01 or	JYEJ040YUQ03
	JACK SW DIN PCB S 04 MDC-076H-A LF	JYEJ040LY002
JK211	JACK RCA PCB S YELLOW 01/RCA-101H(YL) or	JXRJ010YUQ05
	JACK RCA PCB S (YELLOW) 01 MTJ-032-04B-40 FE	JXRJ010LY032
JK212	JACK RCA PCB S WHITE 01/RCA-101H(WH) or	JXRJ010YUQ02
	JACK RCA PCB S (WHITE) 01 MTJ-032-04B-41 FE	JXRJ010LY031
JK213	JACK SW RCA PCB S RED RCA-102H(RD) or	JYRJ010YUQ03
	JACK SW RCA PCB S(RED) 01 MTJ-032-04A-75 FE	JYRJ010LY031
JK301	JACK RGB PCB S 01/RGB-11HS	JXGJ21YUQ001
JK302	JACK RGB PCB S 01/RGB-11HS	JXGJ21YUQ001
JS12	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
JS13	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
JS14	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
JS501	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
JS504	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
JS505	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
JS551	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
JS552	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
JS609	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
JS610	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
L3	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080
SA602⚠	SURGE ABSORBER 470V+-10PER or	NVQZ10D471KB
⚠	VARISTOR 10D 471K SVR	NVQZVR10D471
SA608⚠	SURGE ABSORBER 470V+-10PER or	NVQZ10D471KB
⚠	VARISTOR 10D 471K SVR	NVQZVR10D471
T601⚠	TRANS POWER BCK-35-0656 or	LTT3PE0XB050
⚠	TRANS POWER 9710	LTT3PE0KT059
TM601	EYELET TYPE D-1	0VM406868
T602⚠	COIL EE JCC41-0024 54MH	LLEE0Z0XB006
TM602	EYELET TYPE D-1	0VM406868

INVERTER ASSEMBLY

Ref. No.	Description	Part No.
	INVERTER ASSEMBLY Consists of the following:	1ESA20340
	INVERTER CBA FUNCTION CBA IR SENSOR CBA JUNCTION CBA	---------- ---------- ---------- ----------

INVERTER CBA

Ref. No.	Description	Part No.
	INVERTER CBA Consists of the following:	----------
	CAPACITORS	
C1001	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1002	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1003	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1004	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1005	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1006	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1007	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1008	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1009	ELECTROLYTIC CAP. 100μF/25V M	CE1EMASDL101
C1011	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1012	POLYESTER FILM CAP. (PB FREE) 0.0039μF/100V J or	CA2A392DT018
	CAP POLYESTER FILM 0.0039μF/100V J	CA2A392SER02
C1013	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1014	CHIP CERAMIC CAP.(1608) B K 6800pF/50V	CHD1JK30B682
C1040	CHIP CERAMIC CAP.(1608) B K 0.47μF/10V	CHD1AK30B474
C1050	CERAMIC CAP. B K 0.01μF/1KV	CCD3AKP0B103
C1051	CERAMIC CAP. B K 0.01μF/1KV	CCD3AKP0B103
C1052	ELECTROLYTIC CAP 100μF/100V or	CE2AMZNDL101
	ELECTROLYTIC CAP 100μF/100V	CE2AMZPDL101
C1053	ELECTROLYTIC CAP 100μF/100V or	CE2AMZNDL101
	ELECTROLYTIC CAP 100μF/100V	CE2AMZPDL101
C1056	ELECTROLYTIC CAP 100μF/100V or	CE2AMZNDL101
	ELECTROLYTIC CAP 100μF/100V	CE2AMZPDL101
C1061	CAP CERAMIC HV 15pF/6KV/SL/J or	CCE1500TE009
	CAP CERAMIC HV 15pF/6.3KV/SL/J	CCA1500MR002
C1062	CAP CERAMIC (AX) 1500pF/50V/B/K	CA1J152TU061
C1063	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1064	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1065	CAP CERAMIC HV 15pF/6KV/SL/J or	CCE1500TE009
	CAP CERAMIC HV 15pF/6.3KV/SL/J	CCA1500MR002
C1066	CAP CERAMIC (AX) 1500pF/50V/B/K	CA1J152TU061
C1067	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1068	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1072	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1111	CAP CERAMIC HV 15pF/6KV/SL/J or	CCE1500TE009
	CAP CERAMIC HV 15pF/6.3KV/SL/J	CCA1500MR002
C1112	CAP CERAMIC (AX) 1500pF/50V/B/K	CA1J152TU061
C1113	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1114	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1115	CAP CERAMIC HV 15pF/6KV/SL/J or	CCE1500TE009
	CAP CERAMIC HV 15pF/6.3KV/SL/J	CCA1500MR002
C1116	CAP CERAMIC (AX) 1500pF/50V/B/K	CA1J152TU061
C1117	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1118	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1122	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1161	CAP CERAMIC HV 15pF/6KV/SL/J or	CCE1500TE009
	CAP CERAMIC HV 15pF/6.3KV/SL/J	CCA1500MR002
C1162	CAP CERAMIC (AX) 1500pF/50V/B/K	CA1J152TU061
C1163	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1164	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1165	CAP CERAMIC HV 15pF/6KV/SL/J or	CCE1500TE009
	CAP CERAMIC HV 15pF/6.3KV/SL/J	CCA1500MR002
C1166	CAP CERAMIC (AX) 1500pF/50V/B/K	CA1J152TU061
C1167	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1168	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1172	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1211	CAP CERAMIC HV 15pF/6KV/SL/J or	CCE1500TE009
	CAP CERAMIC HV 15pF/6.3KV/SL/J	CCA1500MR002
C1212	CAP CERAMIC (AX) 1500pF/50V/B/K	CA1J152TU061
C1213	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1214	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1215	CAP CERAMIC HV 15pF/6KV/SL/J or	CCE1500TE009

Ref. No.	Description	Part No.
	CAP CERAMIC HV 15pF/6.3KV/SL/J	CCA1500MR002
C1216	CAP CERAMIC (AX) 1500pF/50V/B/K	CA1J152TU061
C1217	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1218	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1222	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1500	CERAMIC CAP. 470pF/2KV or	CA3D471PAN04
	CERAMIC CAP. RB 470pF/2KV or	CA3D471TE006
	CERAMIC CAP. BL 470pF/2KV	CA3D471XF003
C1502	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1550	CERAMIC CAP. 470pF/2KV or	CA3D471PAN04
	CERAMIC CAP. RB 470pF/2KV or	CA3D471TE006
	CERAMIC CAP. BL 470pF/2KV	CA3D471XF003
C1552	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1600	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1620	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C1702	CHIP CERAMIC CAP.(1608) F Z 0.22μF/50V	CHD1JZ30F224
C1703	CHIP CERAMIC CAP.(1608) F Z 0.22μF/50V	CHD1JZ30F224
C1800	ELECTROLYTIC CAP. 100μF/25V M	CE1EMASDL101
C1801	ELECTROLYTIC CAP. 22μF/35V M	CE1GMASDL220
C1802	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1905⚠	SAFTY CAP. 2200pF/250V KX or	CA2E222MR101
⚠	SAFTY CAP. 2200pF/250V or	CCN2EMA0E222
⚠	SAFETY CAP. 2200pF/250V M	CCN2HMN0E222
C1910	CAP ELECTROLYTIC 180μF/400V M or	CA2H181DYG10
	CAP ELECTROLYTIC 180μF/400V/M/25/35	CA2H181DYG18
C1930	CERAMIC CAP. 330pF/2KV or	CA3D331PAN04
	CERAMIC CAP. RB 330pF/2KV or	CA3D331TE006
	CERAMIC CAP. BL 330pF/2KV	CA3D331XF003
C1932	POLYESTER FILM CAP. (PB FREE) 0.01μF/ 100V J or	CA2A103DT018
	CAP POLYESTER FILM 0.01μF/100V J	CA2A103SER02
C1933	POLYESTER FILM CAP. (PB FREE) 0.056μF/ 100V J or	CA2A563DT018
	CAP POLYESTER FILM 0.056μF/100V J	CA2A563SER02
C1934	POLYESTER FILM CAP. (PB FREE) 0.0015μF/ 100V J or	CA2A152DT018
	CAP POLYESTER FILM 0.0015μF/100V J	CA2A152SER02
C1970	POLYESTER FILM CAP. (PB FREE) 0.047μF/ 100V J or	CA2A473DT018
	CAP POLYESTER FILM 0.047μF/100V J	CA2A473SER02
C1981	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C1982	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C1990	CERAMIC CAP. CK45-B3AD821KYNN or	CCD3AKN0B821
	CERAMIC CAP. B K 820pF/1KV or	CCD3AKD0B821
	CERAMIC CAP. B K 820pF/1KV	CCD3AKP0B821
C1992⚠	ELECTROLYTIC CAP 470μF/100V or	CE2AMZNDL471
⚠	ELECTROLYTIC CAP 470μF/100V	CE2AMZPDL471
	CONNECTORS	
CN1001	FFC CONNECTOR 15P IMSA-9615S-15A-PP-A or	JC96J15ER007
	CONNECTOR FPC 15P 00 6232 015 006 800+	JC62G15UG026
CN1003	FFC CONNECTOR IMSA-9615S-11A-PP-A or	JC96J11ER007
	CONNECTOR PRINT MES 00 6232 011 006 800+	JC62G11UG026
CN1050⚠	CONNECTOR/JACK 1747386-1	JB17J02AP002
CN1100⚠	CONNECTOR/JACK 1747386-1	JB17J02AP002
CN1150⚠	CONNECTOR/JACK 1747386-1	JB17J02AP002
CN1200⚠	CONNECTOR/JACK 1747386-1	JB17J02AP002
CN1900⚠	CONNECTOR B2P3-VH(LF)(SN) or	J3VH020JG001
⚠	CONNECTOR PRINT OSU 02/S/JS-1120-03N02	J3JT02CHY004
	DIODES	
D1000	DIODE ZENER 15BSB-T26	NDTB015BST26
D1001	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
D1003	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1004	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002

Ref. No.	Description	Part No.
	WIRE COPPER JP0.6MM	XZ40C0AKM001
D1005	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
D1006	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1040	DIODE ZENER 36BSB-T26	NDTB036BST26
D1050	DIODE FR104-B or	NDLZ000FR104
	DIODE FR104BB	NDL1000FR104
D1051	DIODE FR104-B or	NDLZ000FR104
	DIODE FR104BB	NDL1000FR104
D1060	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1061	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1062	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1063	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1064	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1065	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1066	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1067	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1068	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1069	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1070	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1071	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1072	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1073	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1074	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1110	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1111	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1112	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1113	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148

Ref. No.	Description	Part No.
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1114	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1115	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1116	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1117	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1118	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1119	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1120	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1121	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1122	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1123	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1124	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1160	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1161	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1162	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1163	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1164	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1165	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1166	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1167	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1168	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1169	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1170	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F

Ref. No.	Description	Part No.
D1171	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1172	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1173	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1174	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1210	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1211	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1212	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1213	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1214	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1215	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1216	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1217	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1218	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1219	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1220	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1221	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1222	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1223	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1224	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1500	DIODE ZENER 20BSB-T26	NDTB020BST26
D1550	DIODE ZENER 20BSB-T26	NDTB020BST26
D1630	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1700	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1701	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148

Ref. No.	Description	Part No.
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1702	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1703	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1801	DIODE ZENER 10BSB-T26	NDTB010BST26
D1802	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
D1930⚠	DIODE ZENER 27BSB-T26	NDTB027BST26
D1931	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D1932	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1933	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1934⚠	DIODE ZENER 1ZB36BB	NDWZ0001ZB36
D1936	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1960	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
D1970	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D1971	DIODE ZENER 30BSB-T26	NDTB030BST26
D1973	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1990	DIODE FAST RECOVERY 31DF4-FC	QDWZ031DF4FC
D1994	DIODE ZENER 1ZB100BB	NDWZ001ZB100
	ICS	
IC1000	IC PULSE-WIDTH-MODULATION CONT TL494CDR	NSCA0T0TY006
IC1700	IC(OPAMP) LM324NSR or	NSZBA0TTY190
	IC OP.AMP. LM324DT/SO-14/14PIN or	NSZBA0TSS302
	IC OP AMP AS324MTR-E1	NSCA0TBCD013
IC1930⚠	PHOTO COUPLER PS2561L1-1-A-V(L)	QPEL561L11AV
IC1931⚠	PHOTO COUPLER PS2561L1-1-A-V(L)	QPEL561L11AV
	TRANSISTORS	
Q1001	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1003	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1004	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(TE2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(TE2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q1005	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P

Ref. No.	Description	Part No.
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1060	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1061	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1110	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1111	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1160	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1161	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1210	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F

Ref. No.	Description	Part No.
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1211	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1500	FET MOS 2SK2417(FT) or	QFWZSK2417FT
	MOS FET 2SK3454-AZ	QFWZSK3454AZ
Q1501	TRANSISTOR 2SC2120-Y(TE2 F T) or	QQSY2SC2120F
	TRANSISTOR 2SC2120-O(TE2 F T) or	QQS02SC2120F
	TRANSISTOR KTC3203-Y-AT/P or	NQSYKTC3203P
	TRANSISTOR KTC3203-O-AT/P or	NQS0KTC3203P
	NPN TRANSISTOR 2SC5344 Y or	NQSY02SC5344
	NPN TRANSISTOR 2SC5344O-AT	NQS002SC5344
Q1502	TRANSISTOR 2SA950-O (TE2 F T) or	QQS002SA950F
	TRANSISTOR 2SA950-Y(TE2 F T) or	QQSY02SA950F
	TRANSISTOR (PB FREE) KTA1271-Y-AT/P or	NQSYKTA1271P
	TRANSISTOR (PB FREE) KTA1271-O-AT/P or	NQS0KTA1271P
	PNP TRANSISTOR 2SA1981 or	NQS002SA1981
	PNP TRANSISTOR 2SA1981Y-AT	NQSY02SA1981
Q1503	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1550	FET MOS 2SK2417(FT) or	QFWZSK2417FT
	MOS FET 2SK3454-AZ	QFWZSK3454AZ
Q1551	TRANSISTOR 2SC2120-Y(TE2 F T) or	QQSY2SC2120F
	TRANSISTOR 2SC2120-O(TE2 F T) or	QQS02SC2120F
	TRANSISTOR KTC3203-Y-AT/P or	NQSYKTC3203P
	TRANSISTOR KTC3203-O-AT/P or	NQS0KTC3203P
	NPN TRANSISTOR 2SC5344 Y or	NQSY02SC5344
	NPN TRANSISTOR 2SC5344O-AT	NQS002SC5344
Q1552	TRANSISTOR 2SA950-O (TE2 F T) or	QQS002SA950F
	TRANSISTOR 2SA950-Y(TE2 F T) or	QQSY02SA950F
	TRANSISTOR (PB FREE) KTA1271-Y-AT/P or	NQSYKTA1271P
	TRANSISTOR (PB FREE) KTA1271-O-AT/P or	NQS0KTA1271P
	PNP TRANSISTOR 2SA1981 or	NQS002SA1981
	PNP TRANSISTOR 2SA1981Y-AT	NQSY02SA1981
Q1553	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1600	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1621	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1800	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1801	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(TE2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(TE2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q1802	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1803	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1804	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1815	TRANSISTOR 2SA950-O (TE2 F T) or	QQS002SA950F
	TRANSISTOR 2SA950-Y(TE2 F T) or	QQSY02SA950F
	TRANSISTOR (PB FREE) KTA1271-Y-AT/P or	NQSYKTA1271P
	TRANSISTOR (PB FREE) KTA1271-O-AT/P or	NQS0KTA1271P
	PNP TRANSISTOR 2SA1981 or	NQS002SA1981
	PNP TRANSISTOR 2SA1981Y-AT	NQSY02SA1981
Q1930⚠	FET MOS 2SK3562/100UA	QFQZ2SK3562Q
Q1931⚠	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
⚠	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
⚠	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
⚠	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
⚠	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
⚠	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343

Ref. No.	Description	Part No.
⚠	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
⚠	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
⚠	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1932⚠	TRANSISTOR 2SC2120-Y(TE2 F T) or	QQSY2SC2120F
⚠	TRANSISTOR 2SC2120-O(TE2 F T) or	QQS02SC2120F
⚠	TRANSISTOR KTC3203-Y-AT/P or	NQSYKTC3203P
⚠	TRANSISTOR KTC3203-O-AT/P or	NQS0KTC3203P
⚠	NPN TRANSISTOR 2SC5344 Y or	NQSY02SC5344
⚠	NPN TRANSISTOR 2SC5344O-AT	NQS002SC5344
Q1970	NPN TRANSISTOR KTC3200-GR-AT/P	NQSGKTC3200P
Q1971	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1972	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
	RESISTORS	
R1001	CHIP RES. 1/10W F 22k Ω or	RRXAFR5H2202
	CHIP RES.(1608) 1/10W F 22k Ω or	RRXAFR5Z2202
	RES CHIP 1608 1/10W F 22.0k Ω	RTW2202YF002
R1002	CHIP RES. 1/10W F 1.0k Ω or	RRXAFR5H1001
	CHIP RES. 1/10W F 1k Ω or	RRXAFR5Z1001
	RES CHIP 1608 1/10W F 1.00k Ω	RTW1001YF002
R1003	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R1004	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R1005	RES CARBON FILM 1/4W J 220k Ω or	RCX4224FS002
	RES CARBON FILM T 1/4W J 220k Ω	RCX4224T1001
R1006	RES CARBON FILM 1/4W J 56k Ω or	RCX4563FS002
	RES CARBON FILM T 1/4W J 56k Ω	RCX4563T1001
R1007	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1008	CHIP RES. 1/10W J 2.2k Ω or	RRXAJR5Z0222
	RES CHIP 1608 1/10W J 2.2k Ω	RRXA222YF002
R1009	CHIP RES. 1/10W J 82k Ω or	RRXAJR5Z0823
	RES CHIP 1608 1/10W J 82k Ω	RRXA823YF002
R1010	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R1011	CHIP RES. 1/10W F 10k Ω or	RRXAFR5H1002
	CHIP RES. 1/10W F 10k Ω or	RRXAFR5Z1002
	RES CHIP 1608 1/10W F 10.0k Ω	RTW1002YF002
R1012	CHIP RES. 1/10W F 24k Ω or	RRXAFR5H2402
	CHIP RES.(1608) 1/10W F 24k Ω or	RRXAFR5Z2402
	RES CHIP 1608 1/10W F 24.0k Ω	RTW2402YF002
R1013	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R1014	CHIP RES. 1/10W F 4.7k Ω or	RRXAFR5H4701
	CHIP RES.(1608) 1/10W F 4.7k Ω or	RRXAFR5Z4701
	RES CHIP 1608 1/10W F 4.70k Ω	RTW4701YF002
R1015	CHIP RES. 1/10W F 7.50 k Ω or	RRXAFR5H7501
	CHIP RES. 1/10W F 7.5k Ω or	RRXAFR5Z7501
	RES CHIP 1608 1/10W F 7.50k Ω	RTW7501YF002
R1016	CHIP RES. 1/10W J 120k Ω or	RRXAJR5Z0124
	RES CHIP 1608 1/10W J 120k Ω	RRXA124YF002

Ref. No.	Description	Part No.
R1017	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1018	RES CARBON FILM 1/4W J 1.2k Ω or	RCX4122FS002
	RES CARBON FILM T 1/4W J 1.2k Ω	RCX4122T1001
R1019	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
R1021	RES CARBON FILM 1/4W J 10k Ω or	RCX4103FS002
	RES CARBON FILM T 1/4W J 10k Ω	RCX4103T1001
R1022	CHIP RES. 1/10W F 2.2k Ω or	RRXAFR5H2201
	CHIP RES.(1608) 1/10W F 2.2k Ω or	RRXAFR5Z2201
	RES CHIP 1608 1/10W F 2.20k Ω	RTW2201YF002
R1023	CHIP RES. 1/10W F 3.3k Ω or	RRXAFR5H3301
	CHIP RES.(1608) 1/10W F 3.3k Ω or	RRXAFR5Z3301
	RES CHIP 1608 1/10W F 3.30k Ω	RTW3301YF002
R1024	CHIP RES. 1/10W F 100k Ω or	RRXAFR5H1003
	CHIP RES. 1/10W F 100k Ω or	RRXAFR5Z1003
	RES CHIP 1608 1/10W F 100k Ω	RTW1003YF002
R1026	CHIP RES. 1/10W F 220 Ω or	RRXAFR5H2200
	CHIP RES.(1608) 1/10W F 220 Ω or	RRXAFR5Z2200
	RES CHIP 1608 1/10W F 220 Ω	RTW2200YF002
R1028	CHIP RES. 1/10W F 36k Ω or	RRXAFR5H3602
	CHIP RES. 1/10W F 36k Ω or	RRXAFR5Z0363
	RES CHIP 1608 1/10W F 36.0k Ω	RTW3602YF002
R1030	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R1031	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R1032	RES CARBON FILM 1/4W J 24k Ω or	RCX4243FS002
	RES CARBON FILM T 1/4W J 24k Ω	RCX4243T1001
R1033	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1034	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1035	RES CARBON FILM 1/4W J 3.3k Ω or	RCX4332FS002
	RES CARBON FILM T 1/4W J 3.3k Ω	RCX4332T1001
R1036	RES CARBON FILM 1/4W J 10k Ω or	RCX4103FS002
	RES CARBON FILM T 1/4W J 10k Ω	RCX4103T1001
R1040	METAL OXIDE FILM RES. 2W J 0.39 Ω	RN02R39ZU001
R1041	RES CARBON FILM 1/4W J 33k Ω or	RCX4333FS002
	RES CARBON FILM T 1/4W J 33k Ω	RCX4333T1001
R1043	RES CARBON FILM 1/4W J 12k Ω or	RCX4123FS002
	RES CARBON FILM T 1/4W J 12k Ω	RCX4123T1001
R1044	METAL OXIDE FILM RES. 2W J 0.39 Ω	RN02R39ZU001
R1050	METAL OXIDE RES. 1W J 8.2k Ω	RN01822ZU001
R1051	METAL OXIDE RES. 1W J 8.2k Ω	RN01822ZU001
R1060	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R1061	CHIP RES. 1/10W J 20k Ω or	RRXAJR5Z0203
	RES CHIP 1608 1/10W J 20k Ω	RRXA203YF002
R1062	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R1063	CHIP RES. 1/10W F 18k Ω or	RRXAFR5H1802
	CHIP RES.(1608) 1/10W F 18k Ω or	RRXAFR5Z1802
	RES CHIP 1608 1/10W F 18.0k Ω	RTW1802YF002
R1064	CHIP RES. 1/10W F 8.2k Ω or	RRXAFR5H8201
	CHIP RES.(1608) 1/10W F 8.2k Ω or	RRXAFR5Z8201
	RES CHIP 1608 1/10W F 8.20k Ω	RTW8201YF002
R1065	RES CARBON FILM 1/4W J 27k Ω or	RCX4273FS002
	RES CARBON FILM T 1/4W J 27k Ω	RCX4273T1001
R1066	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R1067	CHIP RES. 1/10W J 20k Ω or	RRXAJR5Z0203
	RES CHIP 1608 1/10W J 20k Ω	RRXA203YF002
R1068	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R1069	CHIP RES. 1/10W F 18k Ω or	RRXAFR5H1802
	CHIP RES.(1608) 1/10W F 18k Ω or	RRXAFR5Z1802

Ref. No.	Description	Part No.
	RES CHIP 1608 1/10W F 18.0k Ω	RTW1802YF002
R1070	CHIP RES. 1/10W F 8.2k Ω or	RRXAFR5H8201
	CHIP RES.(1608) 1/10W F 8.2k Ω or	RRXAFR5Z8201
	RES CHIP 1608 1/10W F 8.20k Ω	RTW8201YF002
R1071	RES CARBON FILM 1/4W J 27k Ω or	RCX4273FS002
	RES CARBON FILM T 1/4W J 27k Ω	RCX4273T1001
R1072	CHIP RES. 1/10W J 1M Ω or	RRXAJR5Z0105
	RES CHIP 1608 1/10W J 1.0M Ω	RRXA105YF002
R1080	CHIP RES. 1/10W F 22k Ω or	RRXAFR5H2202
	CHIP RES.(1608) 1/10W F 22k Ω or	RRXAFR5Z2202
	RES CHIP 1608 1/10W F 22.0k Ω	RTW2202YF002
R1081	CHIP RES. 1/10W J 5.6k Ω or	RRXAJR5Z0562
	RES CHIP 1608 1/10W J 5.6k Ω	RRXA562YF002
R1110	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R1111	CHIP RES. 1/10W J 20k Ω or	RRXAJR5Z0203
	RES CHIP 1608 1/10W J 20k Ω	RRXA203YF002
R1112	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R1113	CHIP RES. 1/10W F 18k Ω or	RRXAFR5H1802
	CHIP RES.(1608) 1/10W F 18k Ω or	RRXAFR5Z1802
	RES CHIP 1608 1/10W F 18.0k Ω	RTW1802YF002
R1114	CHIP RES. 1/10W F 8.2k Ω or	RRXAFR5H8201
	CHIP RES.(1608) 1/10W F 8.2k Ω or	RRXAFR5Z8201
	RES CHIP 1608 1/10W F 8.20k Ω	RTW8201YF002
R1115	RES CARBON FILM 1/4W J 27k Ω or	RCX4273FS002
	RES CARBON FILM T 1/4W J 27k Ω	RCX4273T1001
R1116	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R1117	CHIP RES. 1/10W J 20k Ω or	RRXAJR5Z0203
	RES CHIP 1608 1/10W J 20k Ω	RRXA203YF002
R1118	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R1119	CHIP RES. 1/10W F 18k Ω or	RRXAFR5H1802
	CHIP RES.(1608) 1/10W F 18k Ω or	RRXAFR5Z1802
	RES CHIP 1608 1/10W F 18.0k Ω	RTW1802YF002
R1120	CHIP RES. 1/10W F 8.2k Ω or	RRXAFR5H8201
	CHIP RES.(1608) 1/10W F 8.2k Ω or	RRXAFR5Z8201
	RES CHIP 1608 1/10W F 8.20k Ω	RTW8201YF002
R1121	RES CARBON FILM 1/4W J 27k Ω or	RCX4273FS002
	RES CARBON FILM T 1/4W J 27k Ω	RCX4273T1001
R1122	CHIP RES. 1/10W J 1M Ω or	RRXAJR5Z0105
	RES CHIP 1608 1/10W J 1.0M Ω	RRXA105YF002
R1160	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R1161	CHIP RES. 1/10W J 20k Ω or	RRXAJR5Z0203
	RES CHIP 1608 1/10W J 20k Ω	RRXA203YF002
R1162	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R1163	CHIP RES. 1/10W F 18k Ω or	RRXAFR5H1802
	CHIP RES.(1608) 1/10W F 18k Ω or	RRXAFR5Z1802
	RES CHIP 1608 1/10W F 18.0k Ω	RTW1802YF002
R1164	CHIP RES. 1/10W F 8.2k Ω or	RRXAFR5H8201
	CHIP RES.(1608) 1/10W F 8.2k Ω or	RRXAFR5Z8201
	RES CHIP 1608 1/10W F 8.20k Ω	RTW8201YF002
R1165	RES CARBON FILM 1/4W J 27k Ω or	RCX4273FS002
	RES CARBON FILM T 1/4W J 27k Ω	RCX4273T1001
R1166	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R1167	CHIP RES. 1/10W J 20k Ω or	RRXAJR5Z0203
	RES CHIP 1608 1/10W J 20k Ω	RRXA203YF002
R1168	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R1169	CHIP RES. 1/10W F 18k Ω or	RRXAFR5H1802
	CHIP RES.(1608) 1/10W F 18k Ω or	RRXAFR5Z1802
	RES CHIP 1608 1/10W F 18.0k Ω	RTW1802YF002
R1170	CHIP RES. 1/10W F 8.2k Ω or	RRXAFR5H8201

Ref. No.	Description	Part No.
	CHIP RES.(1608) 1/10W F 8.2k Ω or	RRXAFR5Z8201
	RES CHIP 1608 1/10W F 8.20k Ω	RTW8201YF002
R1171	RES CARBON FILM 1/4W J 27k Ω or	RCX4273FS002
	RES CARBON FILM T 1/4W J 27k Ω	RCX4273T1001
R1172	CHIP RES. 1/10W J 1M Ω or	RRXAJR5Z0105
	RES CHIP 1608 1/10W J 1.0M Ω	RRXA105YF002
R1210	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R1211	CHIP RES. 1/10W J 20k Ω or	RRXAJR5Z0203
	RES CHIP 1608 1/10W J 20k Ω	RRXA203YF002
R1212	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R1213	CHIP RES. 1/10W F 18k Ω or	RRXAFR5H1802
	CHIP RES.(1608) 1/10W F 18k Ω or	RRXAFR5Z1802
	RES CHIP 1608 1/10W F 18.0k Ω	RTW1802YF002
R1214	CHIP RES. 1/10W F 8.2k Ω or	RRXAFR5H8201
	CHIP RES.(1608) 1/10W F 8.2k Ω or	RRXAFR5Z8201
	RES CHIP 1608 1/10W F 8.20k Ω	RTW8201YF002
R1215	RES CARBON FILM 1/4W J 27k Ω or	RCX4273FS002
	RES CARBON FILM T 1/4W J 27k Ω	RCX4273T1001
R1216	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R1217	CHIP RES. 1/10W J 20k Ω or	RRXAJR5Z0203
	RES CHIP 1608 1/10W J 20k Ω	RRXA203YF002
R1218	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R1219	CHIP RES. 1/10W F 18k Ω or	RRXAFR5H1802
	CHIP RES.(1608) 1/10W F 18k Ω or	RRXAFR5Z1802
	RES CHIP 1608 1/10W F 18.0k Ω	RTW1802YF002
R1220	CHIP RES. 1/10W F 8.2k Ω or	RRXAFR5H8201
	CHIP RES.(1608) 1/10W F 8.2k Ω or	RRXAFR5Z8201
	RES CHIP 1608 1/10W F 8.20k Ω	RTW8201YF002
R1221	RES CARBON FILM 1/4W J 27k Ω or	RCX4273FS002
	RES CARBON FILM T 1/4W J 27k Ω	RCX4273T1001
R1222	CHIP RES. 1/10W J 1M Ω or	RRXAJR5Z0105
	RES CHIP 1608 1/10W J 1.0M Ω	RRXA105YF002
R1500	CHIP RES. 1/10W J 12k Ω or	RRXAJR5Z0123
	RES CHIP 1608 1/10W J 12k Ω	RRXA123YF002
R1501	RES CARBON FILM 1/4W J 10 Ω or	RCX4100FS002
	RES CARBON FILM T 1/4W J 10 Ω	RCX4100T1001
R1502	RES CARBON FILM 1/4W J 150 Ω or	RCX4151FS002
	RES CARBON FILM T 1/4W J 150 Ω	RCX4151T1001
R1503	RES CARBON FILM 1/4W J 2.2k Ω or	RCX4222FS002
	RES CARBON FILM T 1/4W J 2.2k Ω	RCX4222T1001
R1504	RES CARBON FILM 1/4W J 2.2k Ω or	RCX4222FS002
	RES CARBON FILM T 1/4W J 2.2k Ω	RCX4222T1001
R1505	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1506	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1550	RES CARBON FILM 1/4W J 12k Ω or	RCX4123FS002
	RES CARBON FILM T 1/4W J 12k Ω	RCX4123T1001
R1551	RES CARBON FILM 1/4W J 10 Ω or	RCX4100FS002
	RES CARBON FILM T 1/4W J 10 Ω	RCX4100T1001
R1552	RES CARBON FILM 1/4W J 150 Ω or	RCX4151FS002
	RES CARBON FILM T 1/4W J 150 Ω	RCX4151T1001
R1553	RES CARBON FILM 1/4W J 2.2k Ω or	RCX4222FS002
	RES CARBON FILM T 1/4W J 2.2k Ω	RCX4222T1001
R1554	RES CARBON FILM 1/4W J 2.2k Ω or	RCX4222FS002
	RES CARBON FILM T 1/4W J 2.2k Ω	RCX4222T1001
R1555	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1556	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1600	CHIP RES. 1/10W J 18k Ω or	RRXAJR5Z0183
	RES CHIP 1608 1/10W J 18k Ω	RRXA183YF002
R1601	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103

Ref. No.	Description	Part No.
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1620	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R1621	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1630	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1631	CHIP RES. 1/10W J 3.3k Ω or	RRXAJR5Z0332
	RES CHIP 1608 1/10W J 3.3k Ω	RRXA332YF002
R1700	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R1701	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1800	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1801	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R1802	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R1803	RES CARBON FILM 1/4W J 4.7k Ω or	RCX4472FS002
	RES CARBON FILM T 1/4W J 4.7k Ω	RCX4472T1001
R1804	RES CARBON FILM 1/4W J 1.2 Ω or	RCX41R2FS002
	RES CARBON FILM T 1/4W J 1.2 Ω	RCX41R2T1001
R1805	RES CARBON FILM 1/4W J 1k Ω or	RCX4102FS002
	RES CARBON FILM T 1/4W J 1.0k Ω	RCX4102T1001
R1806	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R1807	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1808	CHIP RES. 1/10W J 5.1k Ω or	RRXAJR5Z0512
	RES CHIP 1608 1/10W J 5.1k Ω	RRXA512YF002
R1809	CHIP RES. 1/10W J 1.5k Ω or	RRXAJR5Z0152
	RES CHIP 1608 1/10W J 1.5k Ω	RRXA152YF002
R1810	RES CARBON FILM 1/4W J 4.7k Ω or	RCX4472FS002
	RES CARBON FILM T 1/4W J 4.7k Ω	RCX4472T1001
R1811	RES CARBON FILM 1/4W J 100k Ω or	RCX4104FS002
	RES CARBON FILM T 1/4W J 100k Ω	RCX4104T1001
R1812	RES CARBON FILM 1/4W J 12k Ω or	RCX4123FS002
	RES CARBON FILM T 1/4W J 12k Ω	RCX4123T1001
R1930	RES CARBON FILM 1/4W J 47 Ω or	RCX4470FS002
	RES CARBON FILM T 1/4W J 47 Ω	RCX4470T1001
R1931	RES CARBON FILM 1/4W J 47k Ω or	RCX4473FS002
	RES CARBON FILM T 1/4W J 47k Ω	RCX4473T1001
R1932	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
R1933	RES CARBON FILM 1/4W J 470 Ω or	RCX4471FS002
	RES CARBON FILM T 1/4W J 470 Ω	RCX4471T1001
R1934	RES CARBON FILM 1/4W J 470 Ω or	RCX4471FS002
	RES CARBON FILM T 1/4W J 470 Ω	RCX4471T1001
R1935	RES CARBON FILM 1/4W J 1.5k Ω or	RCX4152FS002
	RES CARBON FILM T 1/4W J 1.5k Ω	RCX4152T1001
R1936	RES CARBON FILM 1/4W J 180 Ω or	RCX4181FS002
	RES CARBON FILM T 1/4W J 180 Ω	RCX4181T1001
R1937⚠	METAL OXIDE FILM RES. 2W J 0.47 Ω	RN02R47ZU001
R1938	RES CARBON FILM 1/4W J 220 Ω or	RCX4221FS002
	RES CARBON FILM T 1/4W J 220 Ω	RCX4221T1001
R1939	RES CARBON FILM 1/4W J 2.2k Ω or	RCX4222FS002
	RES CARBON FILM T 1/4W J 2.2k Ω	RCX4222T1001
R1940	RES CARBON FILM 1/4W J 680k Ω or	RCX4684FS002
	RES CARBON FILM T 1/4W J 680k Ω	RCX4684T1001
R1941	RES CARBON FILM 1/4W J 680k Ω or	RCX4684FS002
	RES CARBON FILM T 1/4W J 680k Ω	RCX4684T1001
R1942	RES CARBON FILM 1/4W J 680k Ω or	RCX4684FS002
	RES CARBON FILM T 1/4W J 680k Ω	RCX4684T1001
R1943	RES CARBON FILM 1/4W J 300k Ω or	RCX4304FS002
	RES CARBON FILM T 1/4W J 300k Ω	RCX4304T1001
R1944	RES CARBON FILM 1/4W J 300k Ω or	RCX4304FS002

Ref. No.	Description	Part No.
	RES CARBON FILM T 1/4W J 300k Ω	RCX4304T1001
R1945	RES CARBON FILM 1/4W J 270k Ω or	RCX4274FS002
	RES CARBON FILM T 1/4W J 270k Ω	RCX4274T1001
R1967	RES CARBON FILM 1/4W J 5.6k Ω or	RCX4562FS002
	RES CARBON FILM T 1/4W J 5.6k Ω	RCX4562T1001
R1968	RES CARBON FILM 1/4W J 5.6k Ω or	RCX4562FS002
	RES CARBON FILM T 1/4W J 5.6k Ω	RCX4562T1001
R1969	RES CARBON FILM 1/4W J 5.6k Ω or	RCX4562FS002
	RES CARBON FILM T 1/4W J 5.6k Ω	RCX4562T1001
R1970	RES CARBON FILM 1/4W J 1.5k Ω or	RCX4152FS002
	RES CARBON FILM T 1/4W J 1.5k Ω	RCX4152T1001
R1971	RES CARBON FILM 1/4W J 5.6k Ω or	RCX4562FS002
	RES CARBON FILM T 1/4W J 5.6k Ω	RCX4562T1001
R1972	CHIP RES. 1/10W J 68k Ω or	RRXAJR5Z0683
	RES CHIP 1608 1/10W J 68k Ω	RRXA683YF002
R1973	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R1974	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R1975	CHIP RES. 1/10W F 30k Ω or	RRXAFR5H3002
	CHIP RES.(1608) 1/10W F 30k Ω or	RRXAFR5Z3002
	RES CHIP 1608 1/10W F 30.0k Ω	RTW3002YF002
R1976	CHIP RES. 1/10W F 30k Ω or	RRXAFR5H3002
	CHIP RES.(1608) 1/10W F 30k Ω or	RRXAFR5Z3002
	RES CHIP 1608 1/10W F 30.0k Ω	RTW3002YF002
R1977	CHIP RES. 1/10W F 27k Ω or	RRXAFR5H2702
	CHIP RES.(1608) 1/10W F 27k Ω or	RRXAFR5Z2702
	RES CHIP 1608 1/10W F 27.0k Ω	RTW2702YF002
R1979	CHIP RES. 1/10W F 6.8k Ω or	RRXAFR5H6801
	CHIP RES. 1/10W F 6.8k Ω or	RRXAFR5Z6801
	RES CHIP 1608 1/10W F 6.80k Ω	RTW6801YF002
R1980	CHIP RES. 1/10W F 360 Ω or	RRXAFR5H3600
	CHIP RES. 1/10W F 360 Ω or	RRXAFR5Z3600
	RES CHIP 1608 1/10W F 360 Ω	RTW3600YF002
R1981	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R1982	CHIP RES. 1/10W J 3.3k Ω or	RRXAJR5Z0332
	RES CHIP 1608 1/10W J 3.3k Ω	RRXA332YF002
R1983	RES CARBON FILM 1/4W J 33k Ω or	RCX4333FS002
	RES CARBON FILM T 1/4W J 33k Ω	RCX4333T1001
R1984	RES CARBON FILM 1/4W J 15k Ω or	RCX4153FS002
	RES CARBON FILM T 1/4W J 15k Ω	RCX4153T1001
R1986	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1988	RES CARBON FILM 1/4W J 1k Ω or	RCX4102FS002
	RES CARBON FILM T 1/4W J 1.0k Ω	RCX4102T1001
	MISCELLANEOUS	
B11	HEAT SINK PNA A94F0UH	1EM428121
B12	HEAT SINK PNB ASSEMBLY A94F0UH	1EM428123
BC1301	WIRE COPPER 6111-06003-0120 or	XZ40C0SHG002
	WIRE COPPER JP0.6MM	XZ40C0AKM001
BC1500	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1501	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1550	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1551	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1930	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1931	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
L3	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080
T1050⚠	TRANS INV ETJV23ZF2WAC or	LTZ3PZ0MS005
⚠	TRANS INVERTER HVT-153 or	LTZ3PZ0XB009
⚠	TRANS INVERTER TK.7609A.101	LTZ3PZDAR007
T1100⚠	TRANS INV ETJV23ZF2WAC or	LTZ3PZ0MS005
⚠	TRANS INVERTER HVT-153 or	LTZ3PZ0XB009
⚠	TRANS INVERTER TK.7609A.101	LTZ3PZDAR007
T1150⚠	TRANS INV ETJV23ZF2WAC or	LTZ3PZ0MS005
⚠	TRANS INVERTER HVT-153 or	LTZ3PZ0XB009
⚠	TRANS INVERTER TK.7609A.101	LTZ3PZDAR007

Ref. No.	Description	Part No.
T1200⚠	TRANS INV ETJV23ZF2WAC or	LTZ3PZ0MS005
⚠	TRANS INVERTER HVT-153 or	LTZ3PZ0XB009
⚠	TRANS INVERTER TK.7609A.101	LTZ3PZDAR007
T1950⚠	TRANS POWER BCK-35-0655 or	LTT3PE0XB051
⚠	TRANS POWER 9711	LTT3PE0KT060

FUNCTION CBA

Ref. No.	Description	Part No.
	FUNCTION CBA Consists of the following:	----------
	RESISTORS	
R108	RES CARBON FILM T 1/4W J 220 Ω or	RCX4221T1001
	RES CARBON FILM 1/4W J 220 Ω	RCX4221FS002
R109	RES CARBON FILM T 1/4W G 47k Ω	RCX4473T1002
R111	RES CARBON FILM T 1/4W G 9.1k Ω	RCX4912T1002
R112	RES CARBON FILM T 1/4W G 11k Ω	RCX4113T1002
R113	RES CARBON FILM T 1/4W G 16k Ω	RCX4163T1002
R114	RES CARBON FILM T 1/4W G 27k Ω	RCX4273T1002
R115	RES CARBON FILM T 1/4W G 56k Ω	RCX4563T1002
	SWTICHES	
SW101A	TACT SWITCH SKHHLMA010 or	SST0101AL049
	TACT SWITCH KSMC632A	SST0101HH025
SW103A	TACT SWITCH SKHHLMA010 or	SST0101AL049
	TACT SWITCH KSMC632A	SST0101HH025
SW104A	TACT SWITCH SKHHLMA010 or	SST0101AL049
	TACT SWITCH KSMC632A	SST0101HH025
SW105A	TACT SWITCH SKHHLMA010 or	SST0101AL049
	TACT SWITCH KSMC632A	SST0101HH025
SW106A	TACT SWITCH SKHHLMA010 or	SST0101AL049
	TACT SWITCH KSMC632A	SST0101HH025
SW107A	TACT SWITCH SKHHLMA010 or	SST0101AL049
	TACT SWITCH KSMC632A	SST0101HH025
	MISCELLANEOUS	
CL103A	WIRE ASSEMBLY 3PIN 3PIN/250MM/AWG26/ GRA	WX1A93F0-003

IR SENSOR CBA

Ref. No.	Description	Part No.
	IR SENSOR CBA Consists of the following:	----------
	CAPACITORS	
C113	ELECTROLYTIC CAP. 47µF/16V M H7	CE1CMAVSL470
C115	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
	DIODES	
D104	LED GREEN 333GT/E(FNA) or	NPWZ33GTEFNA
	LED(GREEN) LTL-4234	NPWZ0LTL4234
D105	LED L-53HT or	NP4Z000L53HT
	LED 333HT/E-L or	NPHL00333HTE
	LED 333HT/E-K	NPHK00333HTE
	RESISTORS	
R123	RES CARBON FILM T 1/4W J 220 Ω or	RCX4221T1001
	RES CARBON FILM 1/4W J 220 Ω	RCX4221FS002
R124	RES CARBON FILM T 1/4W J 220 Ω or	RCX4221T1001
	RES CARBON FILM 1/4W J 220 Ω	RCX4221FS002
R126	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R127	RES CARBON FILM T 1/4W J 3.3k Ω or	RCX4332T1001
	RES CARBON FILM 1/4W J 3.3k Ω	RCX4332FS002
R128	RES CARBON FILM T 1/4W J 100 Ω or	RCX4101T1001
	RES CARBON FILM 1/4W J 100 Ω	RCX4101FS002
	MISCELLANEOUS	
RS102	SENSOR REMOTE RECEIVER KSM-712TH2E or	USESJRSKK044
	SENSOR REMOTE RECEIVER KSM-712TH2M	USEJRS0KK001

JUNCTION CBA

Ref. No.	Description	Part No.
	JUNCTION CBA Consists of the following:	----------
	CONNECTOR	
CN1901	242 SERIES CONNECTOR TUC-P06X-B1 WHT ST	JCTUB06TG002
	MISCELLANEOUS	
CL102A	WIRE ASSEMBLY 6PIN 6PIN/215MM/AWG26/ GRA	WX1A93F0-001

Ref. No.	Description	Part No.
TU1⚠	TUNER UNIT DT0S40AML201A	UTNPSG0SM001